

In the United States Court of Federal Claims

No. 16-1647

Filed: August 17, 2018

PUBLIC VERSION*

MYNETTE TECHNOLOGIES, INC., and
STEVEN M. COLBY,

Plaintiffs,

v.

THE UNITED STATES,

Defendant,

and

UNISYS CORPORATION

Intervenor-Defendant.

28 U.S.C. § 1498(a) (Patent Infringement
Jurisdiction);
35 U.S.C. §§ 100(d) (Definitions), 112
(Specification), 281 (Remedy for
Infringement of a Patent);
37 C.F.R. § 1.75 (Claims);
Claim Construction;
Extrinsic Evidence;
Intrinsic Evidence;
Manual Of Patent Examining Procedure
§§ 2159 (Applicability Date
Provisions), 2181 (Identifying and
Interpreting Means-Plus-Function
Limitations);
Rules of the United States Court of
Federal Claims 12(b)(1)
(Jurisdiction), 12(b)(6) (Failure to
State a Claim), 12(e) (Motion for a
More Definite Statement), 14(b)
(Notice to an Interested Party),
15(a)(2) (Amendments Before Trial).

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MEMORANDUM OPINION AND ORDER CONSTRUING CERTAIN CLAIMS OF UNITED STATES PATENT NOS. 7,719,425; 7,924,156; 9,524,458; AND 9,569,777

BRADEN, *Senior Judge*.

* On August 14, 2018, the court forwarded a sealed copy of this Memorandum Opinion And Order to the parties to note any citation or editorial errors that required correction by August 17, 2018 at 2:00 p.m. (EDT). The parties did not propose any corrections.

To facilitate review of this Memorandum Opinion And Order, the court has provided the following outline.

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I. RELEVANT FACTUAL BACKGROUND.¹

On February 7, 2006, Steven M. Colby filed Patent Application No. 11/350,309 (the “‘309 Application”) with the United States Patent and Trademark Office (“USPTO”). 3/30/18 Am. Compl. Ex. B.

On July 19, 2006, Mr. Colby filed a related Patent Application No. 11/458,620 (the “‘620 Application”) with the USPTO. 3/30/18 Am. Compl. Ex. A.

On May 18, 2010, the USPTO issued the ‘309 Application, as U.S. Patent No. 7,719,425 (the “‘425 Patent”), entitled “Radio Frequency Shielding.” 3/30/18 Am. Compl. ¶ 5; 3/30/18 Am. Compl. Ex. B. The USPTO listed Mr. Colby as the sole inventor of the ‘425 Patent. 3/30/18 Am. Compl. Ex. B.

On April 12, 2011, the USPTO issued the ‘620 Application, as U.S. Patent No. 7,924,156 (the “‘156 Patent”), entitled “Electronically Switchable RFID Tags.” 3/30/18 Am. Compl. ¶ 5; 3/30/18 Am. Compl. Ex. A. The USPTO listed Mr. Colby as the sole inventor of the ‘156 Patent. 3/30/18 Am. Compl. Ex. A.

On March 17, 2015, Mr. Colby filed Patent Application No. 14/660,825 (the “‘825 Application”), with the USPTO. 3/30/18 Am. Compl. Ex. D. On that same day, Mr. Colby filed a related Patent Application No. 14/660,907 (the “‘907 Application”) with the USPTO. 3/30/18 Am. Compl. Ex. C.

On September 26, 2016, Mr. Colby assigned “all rights, title[,] and interest” in the aforementioned patents and patent applications to Mynette Technologies, Inc. (“Mynette”).² 3/30/18 Am. Compl. ¶ 6; *see also* “Assignment” dated September 26, 2016, within the “Image File Wrapper” of the ‘825 Application, UNITED STATES PATENT AND TRADEMARK OFFICE: PATENT APPLICATION INFORMATION RETRIEVAL, <https://portal.uspto.gov/pair/PublicPair> (select “Application Number” and search “14/660,825”; then select “Image File Wrapper”; then select “Assignee showing of ownership per 37 CFR 3.73”) [hereinafter “Mynette Assignment, USPTO PUBLIC PAIR”].³

¹ The facts herein were derived from the March 30, 2018 Second Amended Complaint (“3/30/18 Am. Compl.”) and attached exhibits (“3/30/18 Am. Compl. Ex. A–D”).

² Mr. Colby is “an officer, director[,] and shareholder of Mynette[.]” 3/30/18 Am. Compl. ¶ 7.

³ Mr. Colby executed two separate assignments. On September 25, 2016, Mr. Colby assigned “the entire right, title[,] and interest” in the ‘156 and ‘425 Patents and the ‘825 and ‘907 Applications to the “Steven M. Colby Trust.” Mynette Assignment, USPTO PUBLIC PAIR. On September 26, 2016, Mr. Colby assigned the “the entire right, title[,] and interest” in the ‘156 and ‘425 Patents and the ‘825 and ‘907 Applications from the “Steven M. Colby Trust” to Mynette. Mynette Assignment, USPTO PUBLIC PAIR.

On December 20, 2016, the USPTO issued the ‘907 Application, as U.S. Patent No. 9,524,458 (the “‘458 Patent”), entitled “Switchable ePassport Including Shielding.” 3/30/18 Am. Compl. ¶ 5; 3/30/18 Am. Compl. Ex. C. The USPTO listed Mr. Colby as the sole inventor of the ‘458 Patent and Mynette as the sole assignee. 3/30/18 Am. Compl. Ex. C.

On February 14, 2017, the USPTO issued the ‘825 Application, as U.S. Patent No. 9,569,777 (the “‘777 Patent”), entitled “ePassport Including Shielding Method.” 3/30/18 Am. Compl. ¶ 5; 3/30/18 Am. Compl. Ex. D. The USPTO listed Mr. Colby as the sole inventor of the ‘458 Patent and Mynette as the sole assignee. 3/30/18 Am. Compl. Ex. D.

II. PROCEDURAL HISTORY.

On December 14, 2016, Mynette and Mr. Colby (collectively “Plaintiffs”) filed a Complaint in the United States Court of Federal Claims. ECF No. 1. On December 20, 2016, the USPTO issued the ‘458 Patent. 3/30/18 Am. Compl. ¶ 5; 3/30/18 Am. Compl. Ex. C.

On February 13, 2017, the Government filed an Answer. ECF No. 7. On February 14, 2017, the USPTO issued the ‘777 Patent. 3/30/18 Am. Compl. ¶ 5; 3/30/18 Am. Compl. Ex. D.

On March 30, 2017, Plaintiffs filed an Unopposed Motion To Amend Complaint, pursuant to Rule of the United States Court of Federal Claims (“RCFC”) 15(a)(2), that requested leave to file an amended complaint “to add” the ‘458 and ‘777 Patents. ECF No. 9. On that same day, the court issued an Order granting Plaintiff’s March 30, 2017 Motion To Amend. ECF No. 10.

On March 31, 2017, Plaintiffs filed an Amended Complaint. ECF No. 12.

On May 31, 2017, the Government filed an Answer. ECF No. 14. On that same day, the Government filed an Unopposed Motion To Notify Third Parties, pursuant to RCFC 14(b), wherein the Government requested that notice be sent to: Gemalto North America (“Gemalto”); Infineon Technologies North America (“Infineon”); MorphoTrust USA, LLC (“MorphoTrust”); Unisys Corp. (“Unisys”); V3 Gate Team LLP (“V3”); and Wildflower International, LTD (“Wildflower”). ECF No. 15.

On July 5, 2017, the court issued an Order granting the Government’s May 31, 2017 Unopposed Motion To Notify Third Parties. ECF No. 17. On that same day, the Clerk of Court sent Notices to Gemalto, Infineon, MorphoTrust, Unisys, V3, and Wildflower. ECF No. 19.

On August 1, 2017, the court issued a Scheduling Order entering a Claim Construction schedule. ECF No. 21. On August 22, 2017, Unisys filed a Motion To Intervene, pursuant to RCFC 24(a)(2). ECF No. 24. On August 23, 2017, the court issued an Order granting Unisys’s August 22, 2017 Motion To Intervene. ECF No. 26.

On September 20, 2017, Unisys filed an Unopposed Motion To Extend requesting a thirty-six (36) day extension of time. ECF No. 32. On that same day, Unisys also filed a Motion To Dismiss, pursuant to RCFC 12(b)(6), or in the alternative, a Motion For A More Definite Statement, pursuant to RCFC 12(e). ECF No. 33. On September 21, 2017, the court issued an Order granting Unisys’s September 20, 2017 Motion To Extend and entering an amended Claim Construction schedule. ECF No. 34.

On October 18, 2017, Plaintiffs filed a Response to Unisys's September 20, 2017 Motion To Dismiss, or in the alternative, Motion For A More Definite Statement. ECF No. 35.

On November 1, 2017, Unisys filed a Reply to Plaintiffs' October 18, 2017 Response. ECF No. 37. On November 2, 2017, the parties exchanged proposed Claim Construction Charts. ECF No. 45 at 2. On November 9, 2017, the parties filed a Joint Claim Construction Statement And Chart. ECF No. 38. On November 17, 2017, the parties filed a Joint Motion To Amend The Schedule requesting the court to amend the Claim Construction schedule entered on September 21, 2017. ECF No. 40. On November 20, 2017, the court issued an Order granting the parties November 17, 2017 Joint Motion. On November 21, 2017, Unisys filed a Motion To Submit Supplemental Briefing requesting leave to submit supplemental briefing, "because, after briefing on Unisys's Motion was complete, . . . Plaintiffs . . . attempted to add additional asserted claims and . . . attempted to define 'passport' in a way that further supports Unisys's arguments[.]" ECF No. 42 at 1. On November 27, 2017, the court issued an Order granting Unisys's November 21, 2017 Motion To Submit Supplemental Briefing and directing Plaintiffs to "file responses to any supplemental briefing on, or by, December 15, 2017." ECF No. 43. On November 28, 2017, Unisys filed a Supplemental Memorandum. ECF No. 44. On November 30, 2017, the parties exchanged amended proposed Claim Construction Charts. ECF No. 45 at 3.

On December 14, 2017, the Government and Unisys filed a Motion To Exclude, that requested the court to "preclude Plaintiffs from relying on the broadening modifications and added evidentiary support . . . included in [Plaintiffs'] November 30[, 2017 proposed Claim Construction] Chart." ECF No. 45 at 7. On December 15, 2017, Plaintiffs filed a Supplemental Memorandum. ECF No. 46. On December 18, 2017, the parties filed an Amended Joint Claim Construction Statement And Chart.⁴ ECF No. 47.

On January 4, 2018, Plaintiffs filed a Response to Defendants' December 14, 2017 Motion To Exclude. ECF No. 49. On January 11, 2018, Defendants filed a Reply. ECF No. 50.

On February 8, 2018, the court convened a Claim Construction Hearing. ECF No. 54 ("TR 1-145"). On February 22, 2018, the court issued an Order denying Unisys's September 20, 2017 Motion To Dismiss, or in the alternative, Motion For A More Definite Statement and denying Defendants' December 14, 2017 Motion To Exclude. ECF No. 55.

On March 16, 2018, the parties filed a Second Amended Joint Claim Construction Statement And Chart.⁵ ECF No. 58-1. On March 30, 2018, Plaintiffs filed a Second Amended

⁴ The December 18, 2017 Amended Joint Claim Construction Chart identified two "UNDISPUTED TERMS"—(1) "fibers" and (2) "passport"—and eleven "DISPUTED TERMS"—(1) "key memory;" (2) "normally OFF;" (3) "ON/OFF state;" (4) "response;" (5) "responsive;" (6) "responsive state;" (7) "RFID tag;" (8) "shield;" (9) "state memory;" (10) "switch;" and (11) "switch logic." ECF No. 47-1.

⁵ The March 16, 2018 Second Amended Joint Claim Construction Chart identified eight "UNDISPUTED TERMS"—(1) "fibers;" (2) "key memory;" (3) "passport;" (4) "response;" (5) "responsive;" (6) "RFID tag;" (7) "state memory;" and (8) "switch"—and five "DISPUTED

Complaint, pursuant to RCFC 15(a)(2).⁶ ECF No. 61 (“3/30/18 Am. Compl.”). The March 30, 2018 Second Amended Complaint alleges that the “United States, acting through the [United States] Department of State, the United States Passport Office[,] and the [United States] Department of Homeland Security has been, and now is, using or manufacturing, without license from Mynette or [Mr.] Colby or lawful right to use or manufacture, the inventions described in and covered by” the ‘156, ‘425, ‘458, and ‘777 Patents. 3/30/18 Am. Compl. ¶¶ 19, 30, 39, 48.

On April 13, 2018, Unisys filed an Answer. ECF No. 62. On April 25, 2018, Plaintiffs filed an Opening Claim Construction Brief. ECF No. 63 (“4/25/18 Pl. Br.”). On that same day, Defendants also filed an Opening Claim Construction Brief. ECF No. 64 (“4/25/18 Govt. Br.”).

On May 11, 2018, Plaintiffs filed a Responsive Claim Construction Brief. ECF No. 65 (“5/11/18 Pl. Resp.”). On that same day, Defendants also filed a Responsive Claim Construction Brief. ECF No. 66 (“5/11/18 Govt. Resp.”).

III. DISCUSSION.

A. Jurisdiction.

The United States Court of Federal Claims has jurisdiction to adjudicate claims alleging that “an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same . . . [seeking] recovery of . . . reasonable and entire compensation for such use and manufacture.” 28 U.S.C. § 1498(a).

The March 30, 2018 Second Amended Complaint alleges that the “United States, acting through the [United States] Department of State, the United States Passport Office[,] and the [United States] Department of Homeland Security has been, and now is, using or manufacturing, without license from Mynette or [Mr.] Colby or lawful right to use or manufacture, the inventions described in and covered by” the ‘156, ‘425, ‘458, and ‘777 Patents. 3/30/18 Am. Compl. ¶¶ 19, 30, 39, 48. Therefore, the court has determined that the March 30, 2018 Second Amended Complaint properly invokes the court’s jurisdiction, pursuant to 28 U.S.C. § 1498(a), authorizing the United States Court of Federal Claims to adjudicate claims of patent infringement against the federal government.

B. Standing.

“[S]tanding is a threshold jurisdictional issue.” *Myers Investigative & Sec. Servs., Inc. v. United States*, 275 F.3d 1366, 1369 (Fed. Cir. 2002) (citation omitted). The party invoking federal jurisdiction bears the burden of establishing standing. *See Spokeo, Inc. v. Robins*, 136 S. Ct. 1540, 1547 (2016) (“The plaintiff, as the party invoking federal jurisdiction, bears the burden

TERMS”—(1) “ON/OFF state;” (2) “responsive state;” (3) “shield;” (4) “shielding;” and (5) “switch logic.” ECF No. 58–1 Exs. A–B.

⁶ During the February 8, 2018 Claim Construction Hearing, the court granted Plaintiffs leave to file an amended complaint. ECF No. 54 (“TR 140–41”).

of establishing the[] elements [of standing].”); *see also Myers Investigative & Sec. Servs., Inc.*, 275 F.3d at 1369 (quoting *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 561 (1992) (same)). To meet this burden at the pleading stage, the complaint must clearly and specifically set forth facts sufficient to satisfy the standing requirements. *See Spokeo, Inc.*, 136 S. Ct. at 1547 (“Where, as here, a case is at the pleading stage, the plaintiff must ‘clearly . . . allege facts demonstrating’ each element.”) (citation omitted); *see also McKinney v. U.S. Dep’t of Treasury*, 799 F.2d 1544, 1557 (Fed. Cir. 1986) (“The facts alleged in the complaint, taken as true for purposes of a standing analysis, must be sufficient to show that a party has suffered, or is likely to suffer, an injury in fact.”); 15-101 MARTIN H. REDISH, MOORE’S FEDERAL PRACTICE § 101.31 (2018), LEXIS (“To meet its burden at the pleading stage, the litigant invoking federal jurisdiction must clearly and specifically set forth facts sufficient to satisfy the standing requirement.”).

The standing requirements of Article III of the United States Constitution are applicable to the United States Court of Federal Claims. *See Anderson v. United States*, 344 F.3d 1343, 1350 n.1 (Fed. Cir. 2003) (stating that the United States Court of Federal Claims, “though an Article I court, . . . applies the same standing requirements enforced by other federal courts created under Article III”). Therefore, to establish standing, a plaintiff must show:

- (1) it has suffered an “injury in fact” that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.

Friends of the Earth, Inc. v. Laidlaw Envtl. Servs., Inc., 528 U.S. 167, 180–81 (2000); *see also Figueroa v. United States*, 466 F.3d 1023, 1029 (Fed. Cir. 2006) (“To establish standing, a plaintiff must show that he suffered an injury-in-fact that is both fairly traceable to the challenged conduct of the defendant and likely redressable by a favorable judicial decision.”).

A “patentee” is entitled to file a “civil action for infringement of his patent.” 35 U.S.C. § 281. The ‘patentee’ includes not only the patentee to whom the patent was issued but also the successors in title to the patentee.” 35 U.S.C. § 100(d); *see also Waterman v. Mackenzie*, 138 U.S. 252, 260 (1891) (“There can be no doubt that he is ‘the party interested, either as patentee, assignee, or grantee,’ and as such entitled to maintain an action at law to recover damages for an infringement[.]”). “This has been interpreted to require that a suit for infringement must ordinarily be brought by a party holding legal title to the patent. . . . Accordingly, an assignee is the patentee and has standing to bring suit for infringement in its own name.” *Enzo APA & Son, Inc. v. Geapag A.G.*, 134 F.3d 1090, 1093 (Fed. Cir. 1998) (internal citations omitted); *see also Morrow v. Microsoft Corp.*, 499 F.3d 1332, 1339–40 (Fed. Cir. 2007) (“There are three general categories of plaintiffs The first category includes plaintiffs that hold all legal rights to the patent as the patentee or assignee of all patent rights—the entire bundle of sticks. Unquestionably, a patentee who holds all the exclusionary rights and suffers constitutional injury in fact from infringement is one entitled to sue for infringement in its own name.”). On the other hand, those “hold[ing] less than all substantial rights to the patent[,] lack exclusionary rights under the patent statutes to meet the injury in fact requirement[, and therefore] . . . lack constitutional standing.” *Morrow*, 499 F.3d at 1340–41.

The March 30, 2018 Second Amended Complaint alleges that Mynette is the “assignee of all rights, title and interest” to the ‘156, ‘425, ‘458, and ‘777 Patents, “including all rights to enforce the [Patents] and collect past and future damages for infringement.” 3/30/18 Am. Compl. ¶¶ 6, 17, 27, 37, 46; *see also* Mynette Assignment, USPTO PUBLIC PAIR (assigning “the entire right, title[,] and interest” in the ‘156 and ‘425 Patents and the ‘825 and ‘907 Applications to Mynette). As assignee, Mynette “is the patentee and has standing to bring suit for infringement[.]” *See Enzo APA & Son, Inc.*, 134 F.3d at 1093 (“[A]n assignee is the patentee and has standing to bring suit for infringement in its own name.”). By assigning “all rights, title and interest” in the ‘156, ‘425, ‘458, and ‘777 Patents to Mynette, however, Mr. Colby now “hold[s] less than all substantial rights to the patent[s,] . . . [and therefore] lack[s] constitutional standing.” *Morrow*, 499 F.3d at 1340–41.

For these reasons, the court has determined the March 30, 2018 Second Amended Complaint has alleged sufficient facts to establish that Mynette (“Plaintiff”) has standing to seek an adjudication of the claims alleged therein; but, Mr. Colby has not and is dismissed as a Plaintiff in this case. ECF No. 12 First Am. Compl. ¶ 16; *see also* RCFC 12(b)(1).

C. Controlling Precedent Concerning Construction Of Patent Claims.

In *Markman v. Westview Instruments, Inc.* (“*Markman III*”), 517 U.S. 370 (1996), the United States Supreme Court unanimously affirmed the *en banc* decision of the United States Court of Appeals for the Federal Circuit in *Markman v. Westview Instruments, Inc.* (“*Markman II*”), 52 F.3d 967 (Fed. Cir. 1995) (*en banc*), holding that the meaning and scope of a patent’s claims are issues of law to be determined by a federal trial judge. *See Markman III*, 517 U.S. at 372 (“We hold that the construction of a patent, including terms of art within its claim, is exclusively within the province of the court.”). When conducting patent claim construction, federal trial judges should seek to give any disputed claim term its “ordinary and customary meaning,” that is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005).

1. The Person Of Ordinary Skill In The Art.

As a threshold matter, a federal trial judge is required to examine patent claim terms and phrases from the perspective of a person of ordinary skill in the art.⁷ *See Markman II*, 52 F.3d at 986 (“[T]he focus in construing disputed terms in claim language . . . is on the objective test of

⁷ A determination of the person of ordinary skill in the art is a “basic factual inquir[y].” *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *see also Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 666–67 (Fed. Cir. 2000) (“Factors that may be considered in determining the ordinary level of skill in the art include: (1) the types of problems encountered in the art; (2) the prior art solutions to those problems; (3) the rapidity with which innovations are made; (4) the sophistication of the technology; and (5) the educational level of active workers in the field.”).

what one of ordinary skill in the art at the time of the invention would have understood the term to mean.”); *see also Shire Dev., LLC v. Watson Pharm., Inc.*, 787 F.3d 1359, 1364 (Fed. Cir. 2015) (holding that a federal trial judge is required to afford claim terms “their ordinary and accustomed meaning as understood by one of ordinary skill in the art.”); *Phillips*, 415 F.3d at 1313 (“The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation.”). This requirement is “based on the well-settled understanding that inventors are typically persons skilled in the field of the invention and that patents are addressed to and intended to be read by others of skill in the pertinent art.” *Phillips*, 415 F.3d at 1313.

The court has determined that a person of ordinary skill in the art, in this case, would be one knowledgeable about electronics, including radio frequency, and radio frequency identification. ECF No. 16 (3/30/18 Am. Compl. ¶ 5); ECF No. 12-1 at 24 (‘156 Patent col. 1 ll. 44 – col. 2. 22 ll.16); ECF No. 12-2 at 19 (‘425 Patent col. 1 ll. 29–62); ECF No. 12-3 at 41; (‘458 Patent col. 2 ll. 13–35); ECF No. 12-4 at 40 (‘777 Patent col. 2 ll. 13–35); 2/8/18 TR 17, 19, 57–59, 65, 83.

2. Federal Trial Judges Should First Examine Intrinsic Evidence.

After ascertaining the person of ordinary skill in the art, federal trial judges next determine the “ordinary and customary meaning” of the disputed claim terms. *See Phillips*, 415 F.3d at 1313. In doing so, a distinction must be drawn between intrinsic and extrinsic evidence. “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Id.* at 1314. In many cases, however, “the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent” and federal trial judges should “look[] to ‘those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.’” *Id.* (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)). “Those sources include ‘the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.’” *Id.* at 1314 (quoting *Innova/Pure Water, Inc.*, 381 F.3d at 1116). Although federal trial judges may rely on each of these sources of evidence, the United States Court of Appeals for the Federal Circuit has provided an analytical framework prioritizing “intrinsic evidence” over “extrinsic evidence.” *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004) (quoting *Vanderlande Indus. Nederland BV v. Int’l Trade Comm’n*, 366 F.3d 1311, 1318 (Fed. Cir. 2004) (“Under this approach to claim construction, evidence extrinsic to the patent document ‘can shed useful light on the relevant art,’ but is less significant than the intrinsic record in determining the ‘legally operative meaning of disputed claim language.’”)).

The United States Court of Appeals for the Federal Circuit has instructed that federal trial judges should begin claim construction by examining “intrinsic evidence,” including the “claims, the specification and, if in evidence, the prosecution history,” because it is the “most significant source of the legally operative meaning of disputed claim language.” *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1370 (Fed. Cir. 2005); *see also Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (“[I]ntrinsic evidence is the most significant source of

the legally operative meaning of disputed claim language.”). Within the “intrinsic evidence,” however, the United States Court of Appeals for the Federal Circuit has established a hierarchy for federal trial judges to follow. *See Vitronics Corp.*, 90 F.3d at 1582–83 (“First, we look to the words of the claims themselves . . . second, it is always necessary to review the specification . . . [and] [t]hird, the court may also consider the prosecution history of the patent[.]”).

a. The Claims.

First, federal trial judges should look “to the words of the claims themselves, . . . to define the scope of the patented invention.” *Id.* at 1582. This is so, because oftentimes “the claims themselves provide substantial guidance as to the meaning of particular claim terms.” *Phillips*, 415 F.3d at 1314. For example, “the context in which a term is used in the asserted claim can be highly instructive.” *Id.* Moreover, “[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.” *Id.* (citing *Vitronics Corp.*, 90 F.3d at 1582). For instance, “[b]ecause claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims.” *Id.* at 1314–15. Conversely, “[d]ifferences among claims can also be a useful guide in understanding the meaning of particular claim terms.” *Id.* at 1314. For example, “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Id.* at 1315 (citing *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004)).

b. The Specification.

“The claims, of course, do not stand alone. Rather, they are part of a fully integrated written instrument consisting principally of a specification that concludes with the claims. For that reason, claims must be read in view of the specification, of which they are a part.” *Id.* at 1315 (internal quotation marks and citations omitted); *see also In re Fout*, 675 F.2d 297, 300 (C.C.P.A. 1982) (“Claims must always be read in the light of the specification.”). As a matter of law, the specification “contain[s] a written description of the invention . . . in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same[.]” 35 U.S.C. § 112(a). As such, “the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term” *Vitronics Corp.*, 90 F.3d at 1582; *Astrazeneca AB, Aktiebolaget Hassle, KBI-E, Inc. v. Mut. Pharm. Co.*, 384 F.3d 1333, 1337 (Fed. Cir. 2004) (“A long line of cases indicates that evidence intrinsic to the patent—*particularly the patent’s specification, including the inventors’ statutorily-required written description of the invention*—is the primary source for determining claim meaning.” (italics added)). The specification is particularly important in two circumstances.

The first is where the specification includes a “special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess.” *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 805 F.3d 1368, 1375 (Fed. Cir. 2015) (quoting *Phillips*, 415 F.3d at 1316); *see also Edwards Lifesciences LLC v. Cook, Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009) (holding that where two terms are used interchangeably, it “is akin to a definition equating the two”). In such circumstances, “a patentee can act as his own lexicographer to specifically define terms of a claim contrary to their ordinary meaning.” *Process Control Corp. v. Hydrexclaim Corp.*, 190 F.3d 1350, 1357 (Fed. Cir. 1999); *see also Boss Control, Inc. v. Bombardier Inc.*, 410 F.3d

1372, 1377 (Fed. Cir. 2005) (holding that, in ascertaining the scope of the patent, deference should be afforded claims as defined by their “customary meaning,” with the caveat that the law affords patentees the right to serve as “lexicographers,” if a special or unique definition is clearly stated in the specification or prosecution history); *Phillips*, 415 F.3d at 1316 (“[O]ur cases recognize that the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.”). The specification, however, “must clearly redefine a claim term ‘so as to put a reasonable competitor or one reasonably skilled in the art on notice that the patentee intended to so redefine that claim term.’” *Elektia Instrument S.A. v. O.U.R. Scientific Int’l, Inc.*, 214 F.3d 1302, 1307 (Fed. Cir. 2000) (quoting *Process Control Corp.*, 190 F.3d at 1357).

The second is where the specification “reveal[s] an intentional disclaimer, or disavowal, of claim scope by the inventor.” *Phillips*, 415 F.3d at 1316; *see also CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366–67 (Fed. Cir. 2002) (holding that “a claim term will not carry its ordinary meaning if the intrinsic evidence shows that the patentee distinguished that term from prior art on the basis of a particular embodiment, expressly disclaimed subject matter, or described a particular embodiment as important to the invention.”). Any such disclaimer or disavowal, however, “must be clear.” *Conoco, Inc. v. Energy & Envtl. Int’l, L.C.*, 460 F.3d 1349, 1357 (Fed. Cir. 2006) (“Indeed, an inventor may use the specification to intentionally disclaim or disavow the broad scope of a claim. However, this intention must be clear[.]” (internal citations omitted)).

The court also must consider three additional rules of construction concerning the specification. First, federal trial judges have been advised not to construe a claim to exclude a preferred embodiment disclosed in a specification, because “such an interpretation is rarely, if ever, correct[.]” *Vitronics Corp.*, 90 F.3d at 1583 (citing *Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1581 (Fed. Cir. 1996) (“We share the district court’s view that it is unlikely that an inventor would define the invention in a way that excluded the preferred embodiment, or that persons of skill in this field would read the specification in such a way.”)).

Second, when more than one embodiment is disclosed, the court “normally do[es] not interpret claim terms in a way that excludes disclosed examples in the specification.” *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1305 (Fed. Cir. 2007). But, where a claim term must be interpreted in a manner inconsistent with its ordinary meaning to cover all of the disclosed embodiments, and the applicant has not acted as his own lexicographer to “alter the ordinary meaning of the term,” such a term may be interpreted to claim less than all of the embodiments. *See Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383 (Fed. Cir. 2008) (holding that the term “partially” should not be interpreted inconsistent with its ordinary meaning to include “totally” in order to encompass all of the disclosed embodiments, unless the applicant had acted as his own lexicographer to alter the term’s ordinary meaning); *see also Baran v. Med. Device Tech., Inc.*, 616 F.3d 1309, 1315–16 (Fed. Cir. 2010) (holding that, if a term is used in the specification to differentiate between disclosed embodiments, and the term is used in a claim, it is proper to construe the claim to cover only some of the disclosed embodiments, because the differentiation concedes coverage of only certain embodiments).

Third, although the specification is important in discerning the meaning of the claims, federal trial judges must not “import[]” or graft limitations from the specification into the claim. *See Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1330–31 (Fed. Cir. 2011)

(holding that “the role of a [federal trial judge] in construing claims is not to redefine claim recitations or to read limitations into the claim to obviate factual questions of infringement and validity but rather to give meaning to the limitations actually contained in the claims, informed by the written description, the prosecution history[,] if in evidence, and any relevant extrinsic evidence”); *see also Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009) (“The patentee is entitled to the full scope of his claims, and we will not limit him to his preferred embodiment or import a limitation from the specification into the claims.”); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1340 (Fed. Cir. 2001) (characterizing importing limitations from the specification into the claims as “one of the cardinal sins of patent law”); *DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1347 (Fed. Cir. 2008) (holding that “[federal trial judges] cannot alter what the patentee has chosen to claim as his invention, that limitations appearing in the specification will not be read into claims, and that interpreting what is meant by a word in a claim is not to be confused with adding an extraneous limitation appearing in the specification, which is improper” (internal quotation marks and emphasis omitted)).

c. The Prosecution History.

As a form of intrinsic evidence, the prosecution history also “can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Phillips*, 415 F.3d at 1317; *see also Digital Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1344 (Fed. Cir. 1998) (observing that the prosecution history “may contain contemporaneous exchanges between the patent applicant and the [USPTO] about what the claims mean”); *Graham*, 383 U.S. at 33 (“It is, of course, well settled that an invention is construed not only in the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office.”).

Under certain circumstances, the prosecution history can even trump the specification. *See Graham*, 383 U.S. at 33–34 (“Claims as allowed must be read and interpreted with reference to rejected ones and to the state of the prior art; and claims that have been narrowed in order to obtain the issuance of a patent by distinguishing the prior art cannot be sustained to cover that which was previously by limitation eliminated from the patent.”); *see also Springs Window Fashions, LP v. Novo Indus., L.P.*, 323 F.3d 989, 994 (Fed. Cir. 2003) (quoting *Pall Corp. v. PTI Techs. Inc.*, 259 F.3d 1383, 1392 (Fed. Cir. 2001) (“It is well established that ‘the prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution.’”)). Any disclaimer, however, “must be effected with ‘reasonable clarity and deliberateness.’” *Springs Window Fashions*, 323 F.3d at 994 (quoting *N. Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1294 (Fed. Cir. 2000)). In sum, regardless of whether an examiner agreed with an applicant’s statements during prosecution, any argument made “may lead to a disavowal of claim scope[.]” *Seachange Int’l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1374 (Fed. Cir. 2005) (“An applicant’s argument made during prosecution may lead to a disavowal of claim scope even if the Examiner did not rely on the argument.”); *see also Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (“We have stated on numerous occasions that a patentee’s statements during prosecution, whether relied on by the examiner or not, are relevant to claim interpretation.”).

3. Federal Trial Judges May Examine Extrinsic Evidence, But Only In Limited Circumstances.

As the United States Supreme Court has acknowledged, “[i]n some cases . . . the [federal trial] court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015). But, if the court’s consideration of the intrinsic evidence resolves all “genuine ambiguities” about the meaning of a patent claim, as a matter of law, it is improper for the judge to rely on extrinsic evidence, *i.e.*, evidence outside of the patent record, such as expert and inventor testimony, dictionaries, learned treatises, and articles. *See Vitronics Corp.*, 90 F.3d at 1584 (“Only if there were still some genuine ambiguity in the claims, after consideration of all available intrinsic evidence, should the trial court have resorted to extrinsic evidence[.]”). The United States Court of Appeals for the Federal Circuit addressed this issue in *Key Pharmaceuticals v. Hercon Laboratories Corporation*, 161 F.3d 709 (Fed. Cir. 1998):

This court has made strong cautionary statements on the proper use of extrinsic evidence, which might be misread by some members of the bar as restricting a trial court’s ability to hear such evidence. We intend no such thing. To the contrary, trial courts generally can hear expert testimony for background and education on the technology implicated by the presented claim construction issues, and trial courts have broad discretion in this regard.

Furthermore, a trial court is quite correct in hearing and relying on expert testimony on an ultimate claim construction question in cases in which the intrinsic evidence . . . does not answer the question.

What is disapproved of is an attempt to use extrinsic evidence to arrive at a claim construction that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent.

Id. at 716 (citations and emphasis omitted); *see also Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc.*, 206 F.3d 1408, 1414 (Fed. Cir. 2000) (cautioning federal trial judges to “turn[] to extrinsic evidence only when the intrinsic evidence is insufficient to establish the clear meaning of the asserted claim”).

IV. THE COURT'S CONSTRUCTION OF CERTAIN PATENT CLAIMS TERMS.

After the February 8, 2018 Claim Construction Hearing, the parties conferred and agreed on the construction of the following terms: “fibers;”⁸ “key memory;”⁹ “passport;”¹⁰ “response;”¹¹ “responsive;”¹² “RFID tag;”¹³ “state memory;”¹⁴ and “switch.”¹⁵ ECF No. 58–1 Ex. A (identifying “UNDISPUTED TERMS”). The parties, however, could not agree on the construction of the following terms: “ON/OFF state;” “responsive state;” “shield;” “shielding;” and “switch logic.” ECF No. 58–1 Ex. B (identifying “DISPUTED TERMS”).

A. Construction Of The Disputed Claim Terms.

1. “ON/OFF State.”

The parties requested that the trial court construe the term “ON/OFF state,” as recited in Claims 1–3, 7, 11, and 14–17 of the ‘156 Patent, of which Claims 1, 11, and 14 are independent.¹⁶ ECF No. 58–1 Ex. B.

⁸ The parties agree that the term “fibers” is properly construed to mean “[a] thread, strand, filament or wire.” ECF No. 58–1 Ex. A.

⁹ The parties agree that the term “key memory” is properly construed to mean “[v]olatile memory, non-volatile memory, FLASH, SDRAM, ROM, or DRAM which stores/holds a key of an RFID [t]ag.” ECF No. 58–1 Ex. A.

¹⁰ The parties agree that the term “passport” is properly construed to mean “[a] passport booklet.” ECF No. 58–1 Ex. A.

¹¹ The parties agree that the term “response” is properly construed according to its “plain and ordinary meaning.” ECF No. 58–1 Ex. A.

¹² The parties agree that the term “responsive” is properly construed according to its “plain and ordinary meaning.” ECF No. 58–1 Ex. A.

¹³ The parties agree that the term “RFID tag” is properly construed to mean “Radio Frequency Identification Tag.” ECF No. 58–1 Ex. A.

¹⁴ The parties agree that the term “state memory” is properly construed to mean “[v]olatile memory, non-volatile memory, FLASH, SDRAM, ROM, or DRAM which stores/holds the status of an RFID [t]ag.” ECF No. 58–1 Ex. A.

¹⁵ The parties agree that the term “switch” is properly construed to mean “[a] control device that makes or breaks an electrical connection in a circuit.” ECF No. 58–1 Ex. A.

¹⁶ See 35 U.S.C. § 112(c) (“A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.”).

Claim 1 of the '156 Patent recites:

1. A RFID tag comprising:
 - an antenna configured to receive data in a first RF signal, to receive energy from the first RF signal, and to transmit data in a second RF signal, the transmission of the second RF signal being powered by the energy received from the first RF signal; and
 - integrated circuitry including
 - an input configured to receive data from the antenna and to receive power resulting from the energy received from the antenna,
 - an output configured to provide the second RF signal to the antenna for transmission,
 - a state memory configured to store an ***ON/OFF state*** including two or more ON states of the RFID tag;
 - a key memory configured for storing a key for changing the ***ON/OFF state*** stored in the state memory, and
 - a switch logic configured to receive data from the input, to read the key from the key memory, to compare the received data with the read key, and to change the ***ON/OFF state*** stored in the state memory responsive to this comparison, the switch logic being further configured to determine whether or not to provide the second RF signal to the antenna for transmission, the determination being responsive to the ***ON/OFF state*** stored in the state memory.

'156 Patent col. 22 l. 56–col. 23 l. 13 (bold and italics added).

a. Plaintiff's Argument.

Plaintiff argues that the term “ON/OFF state” should be construed to mean “[a] switchable status of an RFID [t]ag which includes an OFF state and at least one ON state.” ECF No. 58–1 Ex. B. Plaintiff's construction “covers both ON and OFF states and various permutations thereof.” 4/25/18 Pl. Br. at 9. In contrast, the Government's “proposed [c]onstruction is a limited characterization of what should occur in an OFF state, and is really a construction of only a part

An independent claim is self-contained and complete [u]nto itself. It is a full and complete description of an operative invention. A *dependent claim* refers back to an earlier claim and adds a limitation. A dependent claim is interpreted to include all limitations of the independent claim on which the dependent claim depends plus the added limitation.

AMY L. LANDERS, UNDERSTANDING PATENT LAW § 4.04[A] (2d ed. 2012) (emphasis in original) (citing 37 C.F.R. § 1.75 (“One or more claims may be presented in dependent form, referring back to and further limiting another claim or claims in the same application.”)).

of this term, the OFF state part.” 4/25/18 Pl. Br. at 9. As such, the Government’s proposed construction “would essentially read out the usage of multiple ON states,” as recited in Claim 1 of the ‘156 Patent. 4/25/18 Pl. Br. at 10. Plaintiff’s proposed construction, however, “incorporates the presence of one OFF state, one or more ON states[,] or any combination thereof.” 4/25/18 Pl. Br. at 10. In addition, “the usage of ON/OFF state in the . . . specification supports Plaintiff’s proposed construction[.]” 4/25/18 Pl. Br. at 10. For example, the ‘156 Patent discloses that “[i]n alternative embodiments, the RFID tag includes multiple ON states, optionally in combination with an OFF state.” 4/25/18 Pl. Br. at 10 (citing ‘156 Patent col. 19 ll. 30–32). FIG. 20 of the ‘156 Patent also discloses an “embodiment that includes more than two states, where the read state can be something other than ‘an ON state’ or ‘an OFF state,’ and if so, a restricted RF response could be sent.” 4/25/18 Pl. Br. at 11 (*italics omitted*) (citing ‘156 Patent col. 21 l. 65–col. 22 l. 8). Other embodiments show “optional combinations of ON and OFF states are disclosed in the specification of the ‘156 Patent[.]” 4/25/18 Pl. Br. at 11 (citing ‘156 Patent col. 20 ll. 4–8, 50–61). The Government’s proposed construction ignores this disclosure and “exclude[s] these embodiments and violate[s] governing principles of claim construction.” 4/25/18 Pl. Br. at 11.

b. The Government’s Argument.

The Government states that the term “ON/OFF state” should be construed to mean “[a] switchable status in which the RFID tag will not transmit in response to receiving an RF signal when it is in an OFF state and will transmit in response to receiving an RF signal when it is in an ON state.” ECF No. 58–1 Ex. B. This construction “explains what ‘ON/OFF state’ means in a manner that is entirely consistent with the asserted patents’ specifications.” 4/25/18 Govt. Br. at 5. In contrast, Plaintiff’s proposed construction

fails to take any position whatsoever regarding what constitutes an “ON state” or an “OFF state,” indicating only that both are “included” in an “ON/OFF state.” This leaves the parties to later dispute what an “ON state” and an “OFF state” are as well as the inevitable question of whether an accused product or prior art reference “includes an OFF state and at least one ON state.”

4/25/18 Govt. Br. at 5.

In addition, Plaintiff’s proposed construction “should be rejected[,] because it fails [to] assist the trier of fact in assessing issues of infringement or invalidity—the very purpose of claim construction.” 4/25/18 Govt. Br. at 5. The Government adds that its “construction of ‘ON/OFF state’ [is derived] from repeated and consistent statements in the asserted patents.” 4/25/18 Govt. Br. at 5. For example, the ‘156 Patent “repeatedly describe[s] an ‘OFF state’ as being one in which an RFID tag will not transmit in response to receiving an RF signal.” 4/25/18 Govt. Br. at 6 (citing ‘156 Patent col. 4 ll. 13–14, col. 7 ll. 28–29, col. 21 l. 67–col. 22 l. 1–2). The ‘156 Patent also describes “an ‘ON state’ as being one in which an RFID tag will transmit in response to receiving an RF signal.” 4/25/18 Govt. Br. at 6 (citing ‘156 Patent col. 3 ll. 18–21, col. 7 ll. 34–35, col. 19 ll. 27–28). Therefore, the Government’s proposed construction “is entirely consistent with the . . . limitations” of Claim 1 of the ‘156 Patent; in contrast, Plaintiff’s proposed construction would render Claim 1 indefinite. 4/25/18 Govt. Br. at 7.

c. Plaintiff's Response.

Plaintiff responds that the Government “erroneously argue[s] that Plaintiff’s construction ‘fails to provide any clarity as to what . . . a state actually *is*.’” 5/11/18 Pl. Resp. at 1 (emphasis in original) (citing 4/25/18 Govt. Br. at 4–5). Both parties agree that “a ‘state’ is a ‘switchable status.’” 5/11/18 Pl. Resp. at 1 (emphasis omitted). This “agreed[-]upon portion of the proper construction, . . . adequately describes what is covered by the claims.” 5/11/18 Pl. Resp. at 1. Plaintiff’s proposed construction “accurately identif[ies] what statuses the ON/OFF state may take, including an OFF state and at least one ON state.” 5/11/18 Pl. Resp. at 1. The Government’s proposed construction, however, “go[es] beyond what is needed to construe ‘ON/OFF state,’ by limiting what each of an incomplete subset of those different states are” and “import[ing] limitations into the claims from examples appearing only in a patent’s written description.” 5/11/18 Pl. Resp. at 1. In addition, the Government’s “proposed interpretations of ‘OFF state’ and ‘ON state’ are not derived from repeated and consistent statements in the asserted patents.” 5/11/18 Pl. Resp. at 2. Therefore, the Government’s “proposed construction fails to consider situations in which the RFID [t]ag is switched between the ON state and the OFF state through receipt of a specific command or commands through an RF signal.” 5/11/18 Pl. Resp. at 2. Moreover, “including ‘at least one ON state,’” as proposed by Plaintiff, “does not render [C]laim 1 indefinite.” 5/11/18 Pl. Resp. at 3.

d. The Government's Response.

The Government responds that each of Plaintiff’s arguments “is ultimately based on the same false assertion that [the Government’s] construction . . . does not ‘deal with the ON state’ . . . and thereby excludes embodiments disclosed in the specification.” 5/11/18 Govt. Resp. at 1 (quoting 4/25/18 Pl. Br. at 12). Plaintiffs April 25, 2018 brief, however, “shows that [the Government’s] construction does, in fact, ‘deal with the ON state part of the construction.’” 5/11/18 Govt. Resp. at 1 (citing 4/25/18 Pl. Br. at 6 (describing the Government’s proposed construction of “ON/OFF state” as “[a] switchable status in which the RFID tag will not transmit in response to receiving an RF signal when it is in an OFF state and will transmit in response to receiving an RF signal when it is in an ON state”)). Plaintiff also “wrongly argue[s] that [the Government’s] construction . . . would essentially read out the usage of multiple ON states[.]” 5/11/18 Govt. Resp. at 3 (quoting 4/25/18 Pl. Br. at 13). But, the Government’s “construction” “explicitly indicates what an ‘ON state’ is and, by its plain terms, takes no position whatsoever regarding the minimum or maximum number of allowable ON states, leaving that to the other terms of the asserted claims themselves.” 5/11/18 Govt. Resp. at 3. Consequently, Plaintiff’s proposed construction “ignores what is explicitly written in the asserted patents” and “improperly attempts to redraft [C]laim 1 of the ’156 [P]atent to *lower* the minimum number of ‘ON states’ of the RFID tag from two (which [C]laim 1 explicitly requires) to one, thereby broadening the scope of that claim.” 5/11/18 Govt. Resp. at 4 (*italics in original*). The Government’s construction, however, is derived “from the specification, excludes no embodiments described therein and provides an explicit construction of ‘ON/OFF state’ via direct reference to how the specifications of the asserted patents themselves define the constituent ‘ON’ and ‘OFF’ states.” 5/11/18 Govt. Resp. at 4.

e. The Court's Resolution.

The parties' proposed constructions of the term "ON/OFF state" describe different aspects of the "ON/OFF state." Plaintiff's proposed construction describes what the "ON/OFF state" *is*; the Government's proposed construction describes what the "ON/OFF state" *does*. For the reasons that follow, the court has determined that the proper construction of the term "ON/OFF state" requires a combination of both parties' proposed constructions.

First, the claims of the '156 Patent recite that the "ON/OFF state" is either in an ON or OFF state that can change between the two. '156 Patent col. 23 ll. 5–8 ("a switch logic configured . . . to *change* the ON/OFF state" (italics added)), col. 23 ll. 56–58 (same), col. 24 ll. 21–24 (same). This function is also described in the written description of the '156 Patent, providing that the "RFID tag" is "*switched* between the ON state and the OFF state[.]" '156 Patent col. 19 ll. 28–29 (italics added); *see also* '156 Patent Fig. 4A–4B (depicting an "RFID tag" in an "OFF state" and in an "ON state.").

Claim 1 of the '156 Patent recites an "RFID tag comprising: an antenna configured to receive data in a first RF signal . . . and to *transmit data in a second RF signal*." '156 Patent col. 22 ll. 56–59 (italics added). Claim 1 also recites that the "ON/OFF state" necessarily controls whether the "second RF signal" is transmitted from the "RFID tag." '156 Patent col. 23 ll. 9–13 ("switch logic being further configured to determine whether or not to provide the second RF signal to the antenna for transmission, the determination being *responsive to the ON/OFF state* stored in the state memory." (italics added)). The same limitation is also recited in Claims 11 and 14 of the '156 Patent. '156 Patent col. 23 ll. 60–64, col. 24 ll. 26–29. Therefore, the claims of the '156 Patent require that the "ON/OFF state" determines whether data can be transmitted from the "RFID tag" by the "second RF signal."¹⁷ The written description of the '156 Patent, also provides that, "in an OFF state, the RFID tag *will not transmit* a response signal . . . [But, i]n an ON state, the RFID tag *will transmit* a response signal[.]" '156 Patent col. 19 ll. 25–28 (italics added); *see also* '156 Patent col. 3 ll. 18–21 ("In some embodiments, when the switch is in an off state, the RFID tag will not transmit and when the switch is in an on state the RFID tag will transmit in response to an RF (radio frequency) signal.").

¹⁷ The "ON/OFF state" does not *cause* data to be transmitted from the "RFID tag;" instead, the "ON/OFF state" *permits* or *prohibits* data transmission. As described in the '156 Patent, receipt of the "first RF signal" allows data to be transmitted from the "RFID tag" by the "second RF signal." *See, e.g.*, '156 Patent col. 7, ll. 52–55 ("RFID Antenna **140** is configured for sending a radio frequency (RF) signal from Switchable RFID Device **100** *in response to a received signal*." (italics added)). Whether that data *can* be transmitted depends on whether the "RFID tag" is in an "ON state" or in an "OFF state." '156 Patent col. 19 ll. 25–28 ("In some embodiments, in an OFF state, the RFID tag will not transmit a response signal and thus is not remotely detectable using an RF signal. In an ON state, the RFID tag will transmit a response signal[.]"); *see also* '156 Patent col. 3 ll. 18–21 ("In some embodiments, when the switch is in an off state, the RFID tag will not transmit and when the switch is in an on state the RFID tag will transmit in response to an RF (radio frequency) signal.").

In addition, Claim 1 of the ‘156 Patent also recites that the “ON/OFF state includ[es] *two or more* ON states[.]” ‘156 Patent col. 23 ll. 1–2 (italics added). Similarly, Claim 7, that depends on Claim 1, recites “at least two alternative ON states.” ‘156 Patent col. 23 ll. 26–29. The written description of the ‘156 Patent also provides that “[i]n alternative embodiments, the RFID tag includes *multiple* ON states, optionally in combination with an OFF state.” ‘156 Patent col. 19 ll. 30–32 (italics added). Therefore, the “ON/OFF state” may include at least one “ON state” or multiple “ON states.” It is not clear from the claims, however, whether or how these numerous “ON states” effect data transmission, *i.e.*, the “second RF signal.” But, the ‘156 Patent is described as having, “[i]n some embodiments, the switch includes multiple on states in which *different information or signals are transmitted* responsive to the state of the switch.” ‘156 Patent col. 3 ll. 21–24 (italics added). So, in those embodiments of the “RFID tag,” that have more than one “ON state,” the “ON states” respond to the transmission of “different information or signals.”

Therefore, after reviewing the intrinsic evidence of the ‘156 Patent, including the claims, the written description, and the prosecution history,¹⁸ the court has determined that a person of ordinary skill in the art would understand the term “ON/OFF state” to mean:

A switchable status that includes an OFF state and at least one ON state. An OFF state is one in which data cannot be transmitted from a RFID tag; an ON state is one in which data can be transmitted from a RFID tag.

2. “Responsive State.”

The parties have requested that the court construe the term “responsive state,” as recited in Claims 2 and 18 of the ‘458 Patent, both of which depend from Claim 1. ECF No. 58–1 Ex. B.

Claim 2 of the ‘458 Patent recites:

2. The passport of [C]laim 1, wherein the RFID tag is switchable from a non-responsive state to a ***responsive state***, in response to data received via the antenna.

‘458 Patent col. 38 ll. 1–3 (bold and italics added).

Claim 18 of the ‘458 Patent recites:

18. The passport of [C]laim 6, wherein the switch logic is configured to place the RFID tag in a ***responsive state*** in which the identifying information can be read from the RFID tag.

‘458 Patent col. 38 ll. 47–50 (bold and italics added).

¹⁸ The prosecution history of the ‘156 Patent did not include relevant information regarding the construction of the term “ON/OFF state.”

a. Plaintiff's Argument.

Plaintiff argues that the term “responsive state” should be construed to mean “[a] state in which an RFID tag is available to react[.]” ECF No. 58–1 Ex. B. Plaintiff’s proposed construction is consistent with the claims of the ‘458 Patent “as it accurately describes the effect of the tag being placed in a responsive state, *i.e.*[,] in a state which permits the reading of identifying information from the tag.” 4/25/18 Pl. Br. at 20.

b. The Government's Argument.

The Government argues that the term “responsive state” should be construed according to its “[p]lain and ordinary meaning[.]” ECF No. 58–1 Ex. B. Plaintiff’s proposed construction should be rejected, because: (1) “the claims already provide a clear definition for ‘responsive state,’ rendering further construction unnecessary[.]” and (2) it “impermissibly attempts to broaden the scope of [the term] ‘responsive state.’” 4/25/18 Govt. Br. at 21. The claims of the ‘458 Patent “explicitly provide [that], a responsive state is one in which the ‘identifying information can be read from the RFID tag.’” 4/25/18 Govt. Br. at 21 (citing ‘458 Patent col. 38 ll. 49–50). As the United States Court of Appeals for the Federal Circuit “has repeatedly held, the words of the claims themselves are the single most important tool in claim construction.” 4/25/18 Govt. Br. at 21 (citing *Digital Biometrics, Inc.*, 149 F.3d at 1344 (“Even within the intrinsic evidence, however, there is a hierarchy of analytical tools. The actual words of the claim are the controlling focus.”)). Moreover, “while it is true that the patentee is generally free to act as his/her own lexicographer, special definitions to words must be clearly defined in the specification.” 4/25/18 Govt. Br. at 22 (citing *Markman II*, 52 F.3d at 980 (“As we have often stated, a patentee is free to be his own lexicographer. The caveat is that any special definition given to a word must be clearly defined in the specification.” (citations omitted))). In this case, however, “*none* of the specifications of the asserted patents even reference the term ‘react,’ much less present it as part of the definition of ‘responsive state.’” 4/25/18 Govt. Br. at 22 (*italics in original*).

The Government adds that Plaintiff relies on extrinsic evidence although it is “improper and unnecessary . . . where the meaning of a claim limitation is apparent from the intrinsic evidence.” 4/25/18 Govt. Br. at 22. Finally, “and perhaps more importantly, Plaintiff[’s] construction impermissibly attempts to broaden the scope of the term ‘responsive state.’” 4/25/18 Govt. Br. at 22. “Indeed, any state ‘in which an RFID tag is available to *react*[.]’ but ‘in which the identifying information *cannot* be read from the RFID tag’ would be beyond the plain meaning of [C]laim 18 [of the ‘458 Patent,] but within the scope of Plaintiff[’s] proposed construction. This is impermissible, and for that reason alone Plaintiff[’s] construction should be rejected.” 4/25/18 Govt. Br. at 23 (*italics in original*).

c. Plaintiff's Response.

Plaintiff responds that Government construes “responsive state,” based on “what can occur when the RFID [t]ag is placed in a responsive state[.]” 5/11/18 Pl. Resp. at 15. But, “[c]onstruing a claim term by what the term does, or how it performs, rather than how the term should be defined, is improper and violates claim construction principles.” 5/11/18 Pl. Resp. at 15. In addition, the Government “overlook[s] . . . the detailed discussion on this term [that] transpired” at the February 8, 2018 Claim Construction Hearing, where term “responsive state” was discussed in the context

of being “viewed as a ‘state of readiness’ . . . [that] permits ‘the identifying information to be read from the RFID tag.’” 5/11/18 Pl. Resp. at 15–16; 2/8/18 TR at 90–96. This construction is supported by the written description of the ‘458 Patent. 5/11/18 Pl. Resp. at 16 (citing ‘458 Patent col 5 ll. 18–25 (“In various embodiments, one or more switches are used to change operation of an RFID tag from a responsive state to a non-responsive state, to change operation of an RFID tag from one responsive state to another responsive state[.]”)). Plaintiff adds that during the February 8, 2018 Claim Construction Hearing, “the Government indicated that ‘available to react’ was acceptable.” 5/11/18 Pl. Resp. at 16 (citing ECF No. 54 (2/8/18 TR 99–100)). Therefore, Plaintiff’s proposed construction does not “broaden the scope of the term ‘responsive state,’” instead; it is the Government that attempts to “incorporate explicit and separate limitations . . . into the construction of the . . . term[.]” 5/11/18 Pl. Resp. at 17.

d. Government’s Response.

The Government responds that Plaintiff’s proposed construction of the term “responsive state” “redefin[es] that term and broaden[s] the scope of the asserted claims that recite it.” 5/11/18 Govt. Resp. at 16. As a threshold matter, “not a single one of the specifications of the asserted patents even uses the term ‘react,’ much less presents it as part of the definition of ‘responsive state.’” 5/11/18 Govt. Resp. at 16. In addition, Plaintiff’s proposed construction goes beyond the scope of, and is inconsistent with, the plain meaning of the claims of the ‘458 Patent. 5/11/18 Govt. Resp. at 16. Plaintiff’s suggestion that the Government indicated that “the construction ‘available to react’ was acceptable” during the February 8, 2018 Claim Construction Hearing is “incorrect for several reasons.” 5/11/18 Govt. Resp. at 16. Plaintiff never disputed that the Government’s “position was that ‘responsive state’ should be construed according to its plain and ordinary meaning” prior to Plaintiff’s April 25, 2018 Opening Claim Construction Brief. 5/11/18 Govt. Resp. at 16–17. In fact, “it would have been untenable for Plaintiff[’s] counsel to have taken such a position given that Plaintiff[’] . . . ha[s] construed the same term ‘responsive state’ *three different ways* in the three Joint Claim Construction Statements that have been filed thus far.” 5/11/18 Govt. Resp. at 17 (*italics in original*).

e. The Court’s Resolution.

Claim 2 of the ‘458 Patent recites “wherein the RFID tag is switchable from a non-responsive state to a responsive state, in response to data received via the antenna.” ‘458 Patent col. 38 ll. 1–3. Claim 18 of the ‘458 Patent recites “wherein the switch logic is configured to place the RFID tag in a responsive state in which the identifying information can be read from the RFID tag.” ‘458 Patent col. 38 ll. 47–50. The written description of the ‘458 Patent also provides that

[i]n various embodiments, one or more switches are used to change operation of an RFID tag from a responsive state to a non-responsive state, to change operation of an RFID tag from one responsive state to another responsive state, to enter data into an RFID device, to control an external device, or the like.

‘458 Patent col. 5 ll. 19–25.

The written description of the ‘458 Patent likewise provides that

[s]ome embodiments of the invention include a switchable RFID tag is configured to be remotely switched using an RF signal. In some embodiments, in an OFF state, the RFID tag will not transmit a response signal and thus is not remotely detectable using an RF signal. In an ON state, the RFID tag will transmit a response signal.

‘458 Patent col. 34 ll. 4–9.

Claims 2 and 18 and written description of the ‘458 Patent contemplate multiple “states” in which the “RFID tag” *can* transmit responses and “states” in which it *cannot*, *i.e.*, a “responsive state” and a “non-responsive state.” Whether a “RFID tag” is able to transmit a response, *i.e.*, whether the “RFID tag” is “*detectable*,” is not the same as whether the “RFID tag” is “*readable*.” The terms “responsive” and “readable” have different meanings, because Claims 2 and 17 of the ‘458 Patent, both of which depend from Claim 1 of the ‘458 Patent, recite “wherein the RFID tag is switchable from a non-*responsive* state to a *responsive* state” and “wherein the RFID tag is switchable from a non-*readable* state to a *readable* state.” ‘458 Patent col. 38 ll. 1–3, 44–46 (*italics added*). Likewise, Claims 7 and 18, both of which depend from Claim 1 of the ‘458 Patent, recite “wherein the switch logic is configured to place the RFID tag in a *readable* state in which the identifying information can be read from the RFID tag” and “wherein the switch logic is configured to place the RFID tag in a *responsive* state in which the identifying information can be read from the RFID tag,” respectively. ‘458 Patent col. 38 ll. 19–21, 47–50 (*italics added*). If the patentee intended the terms “responsive” and “readable” to be interchangeable, Claims 2 and 17 and Claims 7 and 18 would be redundant. Therefore, the claims of the ‘458 Patent require that the patentee intended that the terms “responsive” and “readable” have different meanings. *See Phillips*, 415 F.3d at 1314 (“Differences among claims can . . . be a useful guide in understanding the meaning of particular claim terms.”); *see also* ECF No. 39 App’x at 999 (amending Claim 31 of the ‘907 Application to recite “*readable* state” instead of “*responsive* state” (*italics added*)); *compare* ‘458 Patent col. 11 ll. 23–24 (“[A] person can allow information within an RFID tag to be read by removing the item from the holder[.]”), col. 11 ll. 26–29 (“Replacing the item within the holder, or closing the holder, secures the item’s RFID tag from unwanted readings from, or detection by, unknown or unauthorized RFID readers.”), col. 12 ll. 62–64 (“[T]he lock reads the RFID tag for some purpose, such as to read the key numbers from RFID tags[.]”), col. 16 ll. 11–15 (“A serial number of the RFID Tag **140** is programmed into the Reader/Lock control **710** . . . by bringing the RFID Tag **140** within the reading range of the Reader/Lock Control **710**, such that the serial number can be read from the RFID Tag **140**.”), col. 16 ll. 18–20 (“The RFID Tag **140** is detected by the Reader/Lock Control **710**. The serial number is read from the detected RFID Tag **140** by Reader/Lock Control **710**.”), col. 17 ll. 39–41 (“When the cover is opened medical person[ne]l can read data from the RFID tag.”), col. 22 ll. 19–22 (“Switchable RFID Tag **2230** is configured for a user to be able to repeatedly turn on and off the function (*e.g.*, de[t]ectability or readability) of Tag **2260** using Switch **2270**.”), col. 23 ll. 39–41 (“Switch **2270** (or a plurality thereof) is optionally configured to separately control detection of and readability of Tag **2260** *with* ‘458 Patent col. 23ll. 41–43. “Detection occurs when Tag **2260** sends any response signal while readability is a function of the data that may be included in the contents of the response signal”)).

In other words, when a “RFID tag” is in a “responsive state,” it is able to transmit a response; but, when a “RFID tag” is in a “responsive state,” the “RFID tag” *may* be, but need not necessarily be, “readable.”

For these reasons, after reviewing the intrinsic evidence of the ‘458 Patent, including the claims, the written description, and the prosecution history,¹⁹ the court has determined that a person of ordinary skill in the art would understand the term “responsive state,” to mean:

A state in which a RFID tag is able to transmit a response.

3. “Shield” and “Shielding.”

The parties have requested that the court construe the terms “shield”²⁰ and “shielding,”²¹ as recited in Claims 1, 2, 4, 5, and 7 of the ‘425 Patent, of which Claim 1 is independent; Claims 1, 10, 11, and 13 of the ‘458 Patent, of which Claim 1 is independent; and Claims 1 and 12 of the ‘777 Patent, of which Claim 1 is independent. ECF No. 58–1 Ex. B–1.

Claim 1 of the ‘425 Patent recites:

1. A passport comprising:
an RFID tag configured to transmit identifying information;
a surface configured to visually display the identifying information; and
a cover including a first part and a second part separated by a fold, the first part including the RFID tag and the second part including a radio frequency ***shielding*** configured to ***shield*** the RFID tag when the cover is closed, and configured to allow reading of the RFID tag when the cover is open, the radio frequency ***shielding*** including metallic fibers disposed within the second part.

‘425 Patent col. 16 ll. 23–34 (bold and italics added).

Claim 1 of the ‘458 Patent recites:

1. A passport comprising:
an antenna;
an RFID tag configured to transmit identifying information using the antenna;
a surface configured to visually display the identifying information;

¹⁹ In a Preliminary Amendment dated October 28, 2015, the patentee amended Claim 31 of the ‘907 Application to recite “*readable state*,” instead of “*responsive state*,” however, there is no explanation why the amendment was made. ECF No. 39 App’x at 999 (italics added).

²⁰ The term “shield” is used in the relevant claims as a verb, *e.g.*, “a radio frequency shielding configured *to shield* the RFID tag.” ‘425 Patent col. 16 ll. 30–31 (italics added).

²¹ The term “shielding” is used in the relevant claims as a noun, *e.g.*, “a radio frequency *shielding* configured to shield the RFID tag.” ‘425 Patent col. 16 ll. 30–31 (italics added).

- a passport cover including a first part and a second part separated by a fold, the first part including the RFID tag; and
- a radio frequency *shielding* configured to *shield* the RFID tag when the cover is closed, and configured to allow reading of the RFID tag when the cover is open, the radio frequency *shielding* including metallic fibers.

‘458 Patent col. 37 ll. 48–60 (bold and italics added).

Claim 1 of the ‘777 Patent recites:

1. A method of reading a passport, the method comprising:
moving a radio frequency *shielding* away from an RFID tag by opening a cover of the passport, opening of the cover resulting in movement of a first part of the cover away from a second part of the cover, the first part including the RFID tag and the second part including the radio frequency *shielding*, the radio frequency including metallic fibers configured to *shield* the RFID tag when the cover is closed and to allow reading of the RFID tag when the cover is open; and
reading identifying information from the RFID tag, the RFID tag being powered by power received through an RFID antenna.

‘777 Patent col. 37 ll. 48–61 (bold and italics added).

a. Plaintiff’s Argument.

Plaintiff argues that the term “shield” should be construed to mean “[t]o attempt to prevent the transmission of radio frequency signals[.]” and the term “shielding” to mean “[a] material such as a metallic fiber that attempts to prevent reading of an RFID tag by blocking radio frequency signals.” ECF No. 58–1 Ex. B. In the claims of the ‘425, ‘458, and ‘777 Patents, the terms “shield” and “shielding” are used to “describe[] . . . attempts to prevent or interfere with radio frequency signals.” 4/25/18 Pl. Br. at 13. The ‘425 Patent is “directed to the use of shielding in relation to RFID [t]ags,” discloses “a number of embodiments including shielded containers for storing devices” and describes “the type of material used for shielding . . . , the shielding dimensions . . . , material characteristics[,], and the manner of attachment[.]” 4/25/18 Pl. Br. at 13. Therefore, Plaintiff’s “include . . . the words ‘to attempt’ in their proposed construction . . . as it properly takes into account . . . the varying degrees of effectiveness of shields.” 4/25/18 Pl. Br. at 13. As a result, Plaintiff’s proposed construction “places the term[s] in [the] proper context as used in the claims and specification of the [a]sserted [p]atents.” 4/25/18 Pl. Br. at 14. In contrast, the Government’s “reliance on plain and ordinary meaning lacks this context and creates the potential for future disputes in this case as to the application of [‘shield’ or ‘shielding’] in infringement scenarios.” 4/25/18 Pl. Br. at 14.

b. The Government’s Argument.

The Government argues that the terms “shield” and “shielding” should be construed according to their “[p]lain and ordinary meaning[s].” ECF No. 58–1 Ex. B. The terms “shield”

and “shielding” should be construed according to their plain and ordinary meanings to one of ordinary skill in the art, rather than by “inappropriately insert[ing] additional meaning into the terms, thereby altering the meaning of the claim limitations containing them.” 4/25/18 Govt. Br. at 8. Specifically, the “plain meaning” and “context” of the claims provide that “the verb ‘shield’ means to prevent reading of the RFID tag when the cover is closed, [but] to allow reading of the RFID tag when the cover is open, *i.e.*, when the ‘shielding’ is removed.” 4/25/18 Govt. Br. at 9. Therefore, “‘shielding’ is a cover or device that shields” so that “the claims on their own provide the meaning of ‘shield’ and ‘shielding’ and further construction can only serve to unnecessarily confuse the question.” 4/25/18 Govt. Br. at 9.

Plaintiff’s concern that “down the line, experts might not agree about the meaning of ‘shield[,]’ . . . fails for two reasons.” 4/25/18 Govt. Br. at 9. First, this “presumes that there will be a disagreement between experts at some hypothetical future point.” 4/25/18 Govt. Br. at 9. Second, Plaintiff has “no evidence of deviation from the plain meaning of the term[.]” 4/25/18 Govt. Br. at 10. The claims “do not themselves contemplate that shielding might be partial or merely ‘reduce’ the transmission of signals.” 4/25/18 Govt. Br. at 10. Although, Plaintiff contends that the written description discloses this feature, “the specification does not—and cannot—change the plain meaning of the terms chosen by the patent drafter and conveyed in the claims.” 4/25/18 Govt. Br. at 10. Therefore, Plaintiff’s proposed construction “goes beyond th[e] plain meaning and impermissibly broadens, muddles[,] and confuses it.” 4/25/18 Govt. Br. at 11.

Likewise, Plaintiff’s “insistence on inserting ‘attempt’ into [both] proposed constructions should fail[,] because it is unsupported by the intrinsic evidence.” 4/25/18 Govt. Br. at 11. “[T]he word ‘attempt’ creates ambiguity where none currently exists, fails to inform the public of what is claimed, and thereby renders the term indefinite.” 4/25/18 Govt. Br. at 11. This is so, because “insertion of the word ‘attempt’ into the construction of ‘shield’ means that the claim is defined not only by what the object at issue is, but also by a subjective belief regarding what the creator of the object intended it to do or try to do.” 4/25/18 Govt. Br. at 11. Therefore, the court “should not construe the term ‘shield’ or ‘shielding’ in a way that would render the claims indefinite, but rather should permit those terms to be understood according to their plain and ordinary meaning.” 4/25/18 Govt. Br. at 12.

c. Plaintiff’s Response.

Plaintiff responds that “[t]here are several reasons why [the Government’s] proposed construction of shield/shielding should not be adopted.” 5/11/18 Pl. Resp. at 4. First, “the plain and ordinary meaning may be inadequate when a term has more than one ordinary meaning or when reliance on a term’s ordinary meaning does not resolve the parties’ dispute.” 5/11/18 Pl. Resp. at 4 (quoting *Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1318 (Fed. Cir. 2016)). Second, “it is necessary to include the ‘attempt to prevent’ language,” because the written descriptions of the asserted patents “describe[] embodiments where the ‘effectiveness of the RFID shielding can be varied considerably based on choices of radio frequency shielding materials and their thicknesses, mesh sizes, and so forth.” 5/11/18 Pl. Resp. at 5 (quoting ‘425 Patent col. 7 ll. 55–58). The Government “contend[s] that the word ‘attempt’ creates ambiguity,” but “the ‘attempt to prevent’ language does not render the claim inappropriately subjective, [but] instead describes specific and explicit examples of shielding given in the specifications.” 5/11/18 Pl. Resp. at 5–6. Third, Plaintiff’s proposed construction is supported by the *Wireless Dictionary*

that defines “shield” as “[a] metal covering used to restrict the transfer of electrostatic and electromagnetic signals (radio signals) to or from equipment or electronic circuits.” WIRELESS DICTIONARY, <http://www.wirelessdictionary.com/index.asp> (enter “shield” in search field)).

d. The Government’s Response.

The Government responds that Plaintiff “conclude[s] without support or analysis that [the asserted patents] demonstrate that [its proposed] construction is appropriate. [But], the term ‘attempt,’ while contained in [Plaintiff’s proposed] construction, does not appear in any portion of the patent that [Plaintiff] cite[s] or reference[s].” 5/11/18 Govt. Resp. at 5. Second, Plaintiff “attempt[s] to avoid a plain and ordinary meaning construction by asserting without support that ‘shield’ and ‘shielding’ are terms of art.” 5/11/18 Govt. Resp. at 5. Third, Plaintiff “cites no authority for the proposition that a person of ordinary skill in the art would understand the term ‘shield’ differently than the plain and ordinary meaning of the word[.]” 5/11/18 Govt. Resp. at 5. Moreover, “there is no indication given that the patentee intended to act as his own lexicographer . . . to define the term ‘shield.’” 5/11/18 Govt. Resp. at 5–6. In addition, “[t]he embodiments disclosed by the patent are explicitly non-exhaustive.” 5/11/18 Govt. Resp. at 6 (citing ‘777 Patent col 37 ll. 42–45 (“Hence, these descriptions and drawings should not be considered in a limiting sense, as it is understood that the present invention is in no way limited to only the embodiments illustrated.”)). Therefore, Plaintiff’s attempt to “define the term ‘shield’ as a function of the embodiments, . . . would render the limitation indefinite, because neither the patents nor the Plaintiff[] can provide a complete list of all possible embodiments and therefore of what their construction would include.” 5/11/18 Govt. Resp. at 6. Finally, Plaintiff reliance on “portions of the [written description] which [it] describe[s] as ‘address[ing] the varying effectiveness of shields and shielding’” is mistaken, because “the patent does not in fact discuss the varying effectiveness of the shielding, but rather that different embodiments of the shield may block different power levels to effect the shielding operation.” 5/11/18 Govt. Resp. at 6.

e. The Court’s Resolution.

Claim 1 of the ‘425 Patent recites “a radio frequency shielding configured to shield the RFID tag when the cover is closed, and configured to allow reading of the RFID tag when the cover is open[.]” ‘425 Patent col. 16 ll. 30–33. Claim 1 of the ‘458 Patent also recites identical limitations [‘458 Patent col. 37 ll. 57–59;] and Claim 1 of the ‘777 Patent similarly recites “radio frequency shielding . . . configured to shield the RFID tag when the cover is closed and to allow reading of the RFID tag when the cover is open.” ‘777 Patent col. 37 ll. 55–58. As such, the claims of the ‘425, ‘458, and ‘777 Patents indicate that “shielding” is a material that “shields,” *i.e.*, inhibits or interferes with the readability of a RFID tag. These claims, however, do not specify *how* and *the extent to which* “shielding” inhibits or interferes with readability of a “RFID tag.” (italics added).

The written descriptions of the ‘425, ‘458, and ‘777 Patents, provide important guidance:

[t]he RFID shielding shields an RFID tag from a reader in *two ways*. First, the RFID shielding greatly reduces the power being broadcast from the reader that reaches the RFID tag within the holder. This cuts the power available to the RFID

tag to transmit information back. Secondly, even if the RFID tag receives enough power to transmit, the signal sent from the RFID tag is also attenuated.^[22]

425 Patent col. 7 ll. 48–54 (*italics added*); *see also* ‘458 Patent col. 13, ll. 52–58 (same); ‘777 Patent col. 13, ll. 52–58 (same).

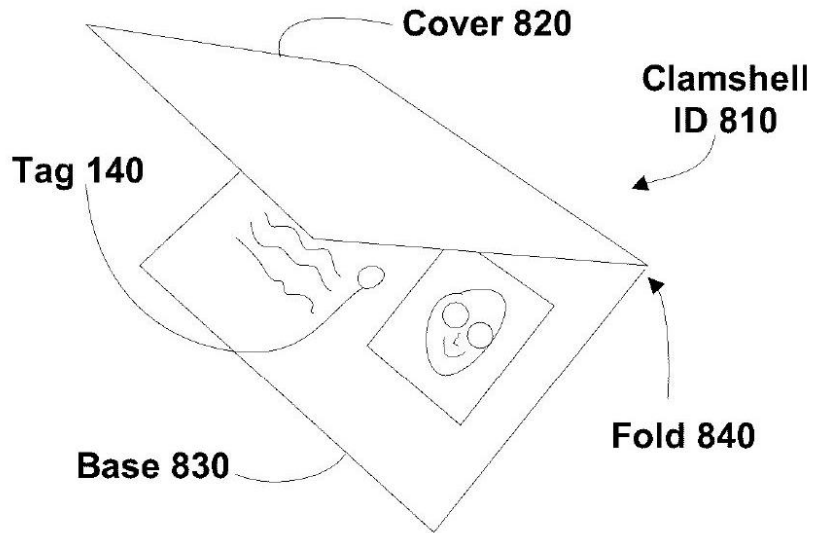


FIG. 8

‘458 Patent Fig. 8.

²² *The Authoritative Dictionary of IEEE Standard Terms* defines “attenuation,” in the “data transmission” context, as a “general term used to denote a decrease in signal magnitude in transmission from one point to another.” INST. OF ELEC. AND ELECS. ENG’RS, THE AUTHORITATIVE DICTIONARY OF IEEE STANDARD TERMS 60 (7th ed. 2000); *see also Attenuate*, WEBSTER’S NEW WORLD COLLEGE DICTIONARY (5th ed. 2016) (defining “attenuate,” in the “electronics” context, as “to reduce the amplitude or strength of (an electrical signal)”).

FIG. 8 of the ‘458 Patent (reproduced on page 28) also shows a “Clamshell ID 810,” including “an RFID Tag 140, and a Cover 820 connected to Base 830 . . . connected along an edge or Fold 840.” ‘458 Patent col. 16 ll. 34–38. The “Cover 820 and/or Base 830 include RFID shielding configured to attenuate radio frequency signals to or from RFID Tag 140 when Cover 820 is closed (*e.g.*, shut), and not to the attenuate or attenuate to a lesser extent, radio frequency signals to or from RFID Tag 140, when the Cover 820 is open.” ‘458 Patent col. 16 ll. 38–43. In other words, “[t]he RF shielding and RFID Tag 140 are configured such that, when Clamshell ID 810 is closed the shielding interferes with the RF pickup of the RFID tag to an extent sufficient for reading of RFID Tag 140 to be attenuated.” ‘458 Patent col. 16 ll. 54–58. On the other hand, “[w]hen the Clamshell ID 810 is open, the shielding is less close to RFID Tag 140 and, thus, the interference of the shielding is reduced and RFID Tag 140 can be read.” ‘458 Patent col. 17 ll. 4–6.23.

The written descriptions of the ‘425, ‘458, and ‘777 Patents disclose that “shielding” “protect[s] . . . RFID tags from being read.” ‘425 Patent col. 5 ll. 19–20; *see also* col. 6 ll. 18–20 (“These cases can also comprise RFID shielding to prevent the RFID tags . . . from being read without authorization”); col. 12 ll. 19–22 (same); ‘458 Patent col. 11, ll. 19–22 (same); ‘777 Patent col. 1, ll. 19–22 (same), col. 12 ll. 19–20 (same).²⁴ Only when the “shield” is separated from the

²³ This embodiment of “Clamshell ID 810” is also disclosed in the ‘425 and ‘777 Patents. ‘425 Patent col. 10, l. 23; col. 11, l. 10; ‘777 Patent col. 16, l. 30–col. 17, l. 18.

²⁴ *See, e.g.*, ‘425 Patent col. 5 l. 63–col. 6 l. 1 (“Incorporating RFID shielding into a wallet, purse, or other type of holder would *prevent an RFID tag on an item within the holder from being read* unless the item is deliberately exposed to the RFID reader, for instance, by removing the item from the holder.” (italics added)), col. 6 ll. 8–12, 18–20 (“Accordingly, providing RFID shielding for various carrying devices, such as purses, suitcases, book bags, briefcases, and satchels can *prevent RFID tags in library books and other objects from being read* without permission. . . . These cases can also comprise RFID shielding to *prevent the RFID tags in the associated devices from being read* without authorization.” (italics added)), col. 7 ll. 15–18 (“For example, a passport can include an RFID shielding material in the passport’s cover so that an RFID tag within the passport *can only be read when the passport is opened*.” (italics added)), col. 11 ll. 27–35 (“For example, in the case of a medical alert bracelet, the bracelet includes an RFID tag (having medical information) that is *only readable when a cover element of the bracelet is opened* to expose the RFID tag to an RFID tag reader. When the cover is opened medical person[ne]l can read data from the RFID tag. When the cover is closed the medical information is *shielded from being read* by unauthorized persons and is thus kept confidential.” (italics added)), col. 14 ll. 5–12 (“As illustrated in FIG. 15, some embodiments of the invention include a method of allowing communication to an RFID tag. The method includes a Step **1510** of opening a front cover of an identification device, such as Clamshell ID 810 . . . , in order to make information included on the inside of the front cover visible, an RF shielding page being kept in proximity of the back cover *such that an RF tag within the back cover is unreadable*.” (italics added)); ‘458 Patent col. 11, l. 66–col. 12, l. 2 (“Incorporating RFID shielding into a wallet, purse, or other type of holder would prevent an RFID tag on an item within the holder from being read unless the item is deliberately exposed to a RFID reader”), ‘col. 12, ll. 10–22 (similar), col. 13, ll. 17–20 (similar), col. 17, ll. 36–

“RFID tag” can the “RFID tag” be read. ‘425 Patent col. 5 ll. 20–27 (“In some embodiments, a person can allow information within an RFID tag to be read by removing the item from the holder, while in other embodiments the holder is merely opened or removed to allow the RFID tag to be read. Replacing the item within the holder, or closing the holder, secures the item’s RFID tag from unwanted readings from, or detection by, unknown or unauthorized RFID readers.”); *see also* ‘458 Patent col. 11, ll. 22–29 (same); ‘777 Patent col. 11, ll. 22–29 (same).

For these reasons, after reviewing the intrinsic evidence of the ‘425, ‘458, and ‘777 Patents, including the claims, the written descriptions, and the prosecution histories,²⁵ the court has determined that a person of ordinary skill in the art would understand the term “shield” to mean:

To prevent the reading of a RFID tag.

Likewise, the court has determined that a person of ordinary skill in the art would understand the term “shielding” to mean:

A material that prevents the reading of a RFID tag.

4. “Switch Logic.”

The parties have requested that the court construe the term “switch logic,” as recited in Claims 1, 11, 14, 29, 34, and 39 of the ‘156 Patent, each of which are independent. ECF No. 58–1 Ex. B.²⁶

Claim 1 of the ‘156 Patent recites:

1. A RFID tag comprising:
 - an antenna configured to receive data in a first RF signal, to receive energy from the first RF signal, and to transmit data in a second RF signal, the transmission of the second RF signal being powered by the energy received from the first RF signal; and
 - integrated circuitry including
 - an input configured to receive data from the antenna and to receive power resulting from the energy received from the antenna,
 - an output configured to provide the second RF signal to the antenna for transmission,

43 (similar), col. 20 ll. 18–26 (similar); ‘777 Patent col. 11, l. 66–col. 12, l. 3 (similar), col. 12, ll. 10–22 (similar), col. 13, ll. 17–20 (similar), col. 17, ll. 36–43 (similar), col. 20 ll. 18–26 (similar).

²⁵ The prosecution histories of the ‘425, ‘458, or ‘777 Patents did not include relevant information regarding the construction of the terms “shield” or “shielding.”

²⁶ “Switch logic” does not appear in the ‘458 Patent in Claim 6, but does appear in Claims 7, 8, 18, and 19.

- a state memory configured to store an ON/OFF state including two or more ON states of the RFID tag;
- a key memory configured for storing a key for changing the ON/OFF state stored in the state memory, and
- a *switch logic* configured to receive data from the input, to read the key from the key memory, to compare the received data with the read key, and to change the ON/OFF state stored in the state memory responsive to this comparison, the *switch logic* being further configured to determine whether or not to provide the second RF signal to the antenna for transmission, the determination being responsive to the ON/OFF state stored in the state memory.

‘156 Patent col. 22 l. 56–col. 23 l. 13 (bold and italics added).

In addition the term “switch logic” is recited in Claim 20, of which Claim 24 is dependent.

Claim 20 of the ‘156 Patent recites:

20. A RFID tag comprising:
- a mechanical switch configured for selecting between two or more ON states of the RFID tag;
 - an antenna configured to receive data in a first RF signal, to receive energy from the first RF signal, and to transmit data in a second RF signal; and
 - integrated circuitry including
 - an input configured to receive data from the antenna,
 - an output configured to provide the second RF signal to the antenna for transmission,
 - a state memory configured to store a state of the RFID tag, and
 - a *switch logic* configured to receive data from the input, and to determine whether or not to provide the second RF signal to the antenna for transmission, the determination being responsive to the state stored in the state memory or the mechanical switch.

‘156 Patent col. 24, ll. 45–61 (bold and italics added).

a. Plaintiff’s Argument.

Plaintiff argues that the term “switch logic” should be construed to mean “[s]oftware, hardware or firmware that can control a switch,” because “switch logic” “controls the state of switches in a RFID [t]ag.” 4/25/18 Pl. Br. at 15 (citing ‘156 Patent col. 3, ll. 15–21 (“Various embodiments of the invention include a remotely powered RFID (radio frequency identity) tag having an electronically controlled switch. This switch is optionally a remote (wirelessly) controlled switch); 55–62 (“[A] switch logic configured to receive data from the input, to read the

key from the key memory, to compare the received data with the read key, and to change the ON/OFF state stored in the state memory responsive to this comparison, the switch logic is further configured to determine whether or not to provide a second RF signal to the antenna for transmission, the determination being responsive to the ON/OFF state stored in the state memory.”)). In other words, “[s]witch [l]ogic is used to receive data from the input, to read the key from the key memory, to compare the received data with the read key, and to change the ON/OFF state stored in the state memory [in response] to this comparison.” 4/25/18 Pl. Br. at 15.

The Government’s argument that the term “switch logic” should be construed under 35 U.S.C. § 112, ¶ 6²⁷ is incorrect. 4/25/18 Pl. Br. at 15–16. Since the word “means” is not present in any of the aforementioned claims, as a matter of law, a “rebuttable presumption” arises that 35 U.S.C. § 112, ¶ 6 is not applicable. 4/25/18 Pl. Br. at 15–16 (citing *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (“[T]he failure to use the word ‘means’ . . . creates a rebuttable presumption . . . that § 112, para. 6 does not apply.”)). To rebut this presumption, the Government must establish, by a preponderance of evidence, that “the ‘claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function.’” 4/23/18 Pl. Br. at 16 (quoting *Williamson*, 792 F.3d at 1348). The Government, however, has not met that burden. 4/25/18 Pl. Br. at 16.

First, “[s]witch [l]ogic[‘] does not appear in the claims as an isolated function without to specific structure,” instead, that term is “specifically described in those claims as part of the integrated circuitry within the RFID [t]ag.” 4/25/18 Pl. Br. at 16 (citing *Finjan, Inc. v. Proofpoint, Inc.*, No. 13-cv-05808-HSG, 2015 WL 7770208, at *11 (N.D. Cal. Dec. 3, 2015) (holding that the means-plus-function limitation does not apply, where “the term does not require any construction beyond its plan and ordinary meaning,” since “the intrinsic evidence describes the term’s location and its interactions with other components”)). In addition, the written descriptions of the ‘156 and ‘458 Patents “reinforce[] the presence of sufficient structure.” 4/25/18 Pl. Br. at 17 (citing ‘156 Patent col. 20 ll. 11–14 (“Integrated Circuit **130** further includes Switch Logic **1860** configured to read the state stored in State Memory **1845** and, responsive to the read state, either transmit or not transmit an RF signal using Antenna **1810**.”); ‘458 Patent col. 34 l. 60–63 (“Integrated Circuit **3930** further includes Switch Logic **3960** configured as to reflect the state stored in State Memory

²⁷ 35 U.S.C. § 112, ¶ 6 provides that

[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, ¶ 6.

Pursuant to the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 296 (2011), 35 U.S.C. § 112, ¶ 6 was renumbered as 35 U.S.C. § 112(f). But, because the ‘156, ‘425, ‘458, and ‘777 Patents were filed, or are continuations of applications that were filed prior to March 16, 2013, pre-AIA 35 U.S.C. § 112 applies to the patents at issue in this case. See MANUAL OF PATENT EXAMINING PROCEDURE (“MPEP”) § 2159.01 (9th ed. 2015).

3945 and, responsive to the read state, either to transmit or not to transmit an RF signal using Antenna **3910**,” *see also* col. 35 ll. 20–23 (“The Switch Logic **3960** can include software, hardware, and/or firmware.”)). The written descriptions in both [the ‘156 and ‘458 P]atents state that [‘s]witch [l]ogic[’] **1860** ‘can include software, hardware, and/or firmware.’” ‘156 Patent col. 20 ll. 35–36; *see also* ‘458 Patent col. 35 ll. 20–21) (same). Accordingly, “[t]he construction of [‘s]witch [l]ogic[’] is not governed by 35 U.S.C. § 112, ¶ 6 and is not indefinite. 4/25/18 Pl. Br. at 19.

b. The Government’s Argument.

The Government argues that: (1) the term “switch logic” is governed by 35 U.S.C. § 112, ¶ 6; and (2) and is indefinite, because the written descriptions of the ‘156 and ‘458 Patents do not identify sufficient corresponding structure. ECF No. 58–1 Ex. B.

The first step in a 35 U.S.C. § 112, ¶ 6 analysis, “is to determine whether the claim term at issue would be understood by a person of ordinary skill in the art at the time of the alleged invention to have a ‘sufficiently definite meaning as the name for structure.’” 4/25/18 Govt. Br. at 13 (quoting *Williamson*, 792 F.3d at 1349). But, Plaintiff “offered no such evidence here[,] because none exists. . . . Indeed, . . . the term ‘switch logic’ did not represent definite structure to one of ordinary skill in the art at the time of the alleged invention and still doesn’t.” 4/25/18 Govt. Br. at 13. Nevertheless, Plaintiff argues “that ‘switch logic’ is ‘software, hardware or firmware that can control a switch.’” 4/25/18 Govt. Br. at 13. This, however, “doesn’t explain what ‘switch logic’ is, only what it ‘can include.’” 4/25/18 Govt. Br. at 14 (*italics in original*). As the United States Court of Appeals for the Federal Circuit has held, “the bare recitation that computer instructions can be software, hardware[,] or firmware is inadequate to render such a limitation structural[.]” 4/25/18 Govt. Br. at 14 (citing *Williamson*, 792 F.3d at 1350 (“[T]he word ‘module’ does not provide any indication of structure because it sets forth the same black box recitation of structure for providing the same specified function as if the term ‘means’ had been used.”)). Accordingly, the term “switch logic” “is a nonce word devoid of structure that has been crafted to mean whatever Plaintiff[] need[s] it to mean.” 4/25/18 Govt. Br. at 14.

Recently, the United States District Court for the District of Massachusetts’ in *Egenera, Inc. v. Cisco Systems, Inc.*, No. 16-11613-RGS, 2018 WL 717342 (D. Mass. Feb. 5, 2018) determined that the term “logic,” as defined by plaintiff—“software, firmware, circuitry or some combination thereof”—was “so broad and formless as to be ‘a generic “black box” for performing the recited computer-implemented functions.’” 4/25/18 Govt. Br. at 14 (quoting *Egenera*, 2018 WL 717342, at *5–6). Accordingly, “a person of ordinary skill in the art . . . would not understand ‘logic’” to refer to definite structure (such as circuitry) because the terms at issue ‘do not recite structural components, and each is described by a specific function.’” 4/25/18 Govt. Br. at 15 (quoting *Egenera*, 2018 WL 717342, at *5). Like the *Egenera* plaintiff, in this case, Plaintiff has “chosen to construe [‘switch logic’] amorphously, as ‘software,’ ‘firmware,’ [‘]hardware[’], or some combination thereof.” 4/25/18 Govt. Br. at 15. “Switch logic,” however” is “a generic description for hardware or software that performs a specific function and is defined only by the functions it performs.” 4/25/18 Govt. Br. at 15 (quotation marks, alternations, and citations omitted).

Nor does the presence of the prefix ‘switch’ avoid the application of 35 U.S.C. § 112, ¶ 6, because “by proposing that ‘switch logic’ means ‘software, hardware or firmware that can control a switch,’ Plaintiff[] ha[s] effectively conceded that a special purpose computer or a specially programmed processor/computer is necessary to perform one or more of the recited functions.” 4/25/18 Govt. Br. at 16–17. As a matter of law, however where special programming is required to perform the claimed function, the “mere recitation of a generic component (such as ‘logic’ or ‘hardware’) for performing it/them does not constitute sufficient structure to avoid [35 U.S.C. § 112, ¶ 6]”. 4/25/18 Govt. Br. at 17 (citing *Williamson*, 792 F.3d at 1352 (“In cases . . . involving a claim limitation that is subject to § 112, para. 6 that must be implemented in a special purpose computer, this court has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor.”)). Therefore, “the term ‘switch logic’ should be construed as a means-plus-function limitation under [35 U.S.C. § 112, ¶ 6]”. 4/25/18 Govt. Br. at 17.

Next, the court must determine “what structure, if any, disclosed in the specification corresponds to the claimed function.” 4/25/18 Govt. Br. at 17. “Where there are multiple claimed functions—as is the case here—the patentee must disclose ‘adequate corresponding structure to perform *all* of the claimed functions.’” 4/25/18 Govt. Br. at 17 (*italics added*) (quoting *Williamson*, 792 F.3d at 1351–52). In addition, where “the claimed functions are to be carried out by a computer or microprocessor programmed to execute an algorithm, as is the case here, ‘the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the . . . algorithm.’” 4/25/18 Govt. Br. at 17 (quoting *WMS Gaming, Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999)). The written descriptions of the ‘156 and ‘458 Patents, however, “provide *no* specific ‘software, hardware or firmware’—much less an algorithm—for performing any of the claimed functions.” 4/25/18 Govt. Br. at 18 (*emphasis omitted*). Therefore, the term “switch logic” is indefinite. 4/25/18 Govt. Br. at 19–20.

c. Plaintiff’s Response.

Plaintiff responds that the Government did not satisfy its burden to rebut the presumption that 35 U.S.C. § 112, ¶ 6 applies, because the claim’s recitation of structure, *i.e.*, “integrated circuitry” that includes “switch logic” provides sufficient structure. 5/11/18 Pl. Resp. at 10. For example, “the claims explicitly describe the term ‘switch logic’ as a part of the claimed ‘integrated circuitry,’ and the specification refers to [‘]switch logic[’] as including ‘software, hardware, and/or firmware.’” 5/11/18 Pl. Resp. at 10 (citing ‘156 Patent col. 20 ll. 35–37). In addition, *Egenera* is inapplicable, because in that case the court decided that “the disputed term ‘logic’ did not refer to circuitry, here the claims themselves specifically describe the [‘]switch logic[’] as a part of the integrated circuitry.” 5/11/18 Pl. Resp. at 12. Moreover, other courts have held the term “logic” to refer to “circuitry.” 5/11/18 Pl. Resp. at 12 (citing *TecSec, Inc. v. Int’l Bus. Machs. Corp.*, 731 F.3d 1336, 1348 (Fed. Cir. 2013) (construing the term “digital logic” as “digital circuits that perform Boolean algebra”); *see also PCTEL, Inc. v. Agere Sys., Inc.*, 2005 WL 2206683, at *21–22 (N.D. Cal. Sept. 8, 2005) (determining “‘logic’ [is] synonymous with circuitry” and “[a] review of the technical dictionaries supports [the] view that ‘logic,’ by itself, can connote structure”); *St. Clair Intellectual Prop. Consultants, Inc. v. Canon, Inc.*, 2004 WL 1941340, at *20–21 (D. Del. Aug. 31, 2004) (determining that the term “logic means” described structure, because it “clearly refer[ed] to a logic circuit”)).

Therefore, even if the court determines that 35 U.S.C. § 112, ¶ 6 applies, the asserted patents disclose sufficient structure for performing the claimed functions. 5/11/18 Pl. Resp. at 13. As a matter of law, “[t]he structure or algorithm of a means-plus-function claim term can rely on well-known techniques known to those of skill[] in the art.” 5/11/18 Pl. Resp. at 13 (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1340 (Fed. Cir. 2016) (“The fact that this algorithm relies, *in part*, on techniques known to a person of skill in the art does not render the composite algorithm insufficient under § 112 ¶ 6. Indeed, this is entirely consistent with the fact that the sufficiency of the structure is viewed through the lens of a person of skill in the art and without need to disclose structures well known in the art.”) (quotation marks omitted)). The bottom line is the Government has “misconstrue[d] the claims’ and specification’s structure provided for the term ‘switch logic’” and fails to consider that “the claims list the specific algorithmic steps performed by the integrated circuit[.]” 5/11/18 Pl. Resp. at 13–14. Instead, “those skilled in the art would understand that the ‘156 Patent discloses sufficient structure and algorithmic support for each function performed by the switch logic of the integrated circuitry.” 5/11/18 Pl. Resp. at 14.

d. The Government’s Response.

The Government respond that “[t]he facts of *Williamson* are very similar to the facts of the present case. . . . Indeed, in both cases the claims use ‘a well-known nonce word that can operate as a substitute for ‘means’ in the context of [35 U.S.C. § 112, ¶ 6].” 5/11/18 Govt. Resp. at 8 (quoting *Williamson*, 792 F.3d at 1350). In addition, “both the ‘switch logic’ in the present case and the ‘distributed learning control module’ in *Williamson* are not described *structurally* but only in terms of the *functions* they perform.” 5/11/18 Govt. Resp. at 8 (*italics in original*). In this case, the asserted patents merely provide that the “switch logic:” (1) is “part of the RFID tag;” and (2) ‘can include software, hardware, and/or firmware.’ 5/11/18 Govt. Resp. at 9 (quoting ‘156 Patent col. 20 ll. 36). But, “[e]ntirely missing from the disclosure of the asserted patents, is *how* the [recited] functions are to be performed and *which* ‘software, hardware and/or firmware’ should be used to perform them.” 5/11/18 Govt. Resp. at 9 (*italics in original*). Therefore, “the extent of disclosure provided by the *Williamson* patent far outstrips what the asserted patents provide” in this case. 5/11/18 Govt. Resp. at 10. As a result, “the claimed ‘switch logic’ can *only* be construed under [35 U.S.C. § 112, ¶ 6].” 5/11/18 Govt. Resp. at 10–11 (*italics in original*). In addition, “[l]ike the functions at issue in *Williamson*, those recited [in this case] ‘must be implemented in a special purpose computer, as Plaintiff[s] construction . . . and the specification[s] . . . themselves indicate.’” 5/11/18 Govt. Resp. at 11 (citing ‘156 Patent col. 20 ll. 35–36 (“The Switch Logic **1860** can include software, hardware, and/or firmware.”), col. 23 ll. 5–11 (“a switch logic configured to receive data from the input, to read the key from the key memory, to compare the received data with the read key, and to change the ON/OFF state stored in the state memory responsive to this comparison, the switch logic being further configured to determine whether or not to provide the second RF signal to the antenna for transmission”)). And, “like the specification of the *Williamson* patent, the specifications of the asserted patents contain no algorithm whatsoever for performing any of the claimed functions.” 5/11/18 Govt. Resp. at 11.

Plaintiff’s reliance on *Finjan* is also misplaced, because the patent in that case “contain[ed] several detailed flow diagrams that indicate precisely how the claimed content processor interacts with the other components of the claimed invention, as well as several other highly detailed flow diagrams that explain how the content processor operates internally.” 5/11/18 Govt. Resp. at 12 (*emphasis omitted*). The patents asserted in this case, however, “contain no flow diagrams that

mention the ‘switch logic,’ much less explain its internal operation.” 5/11/18 Govt. Resp. at 12. Second, “far from merely indicating that the term-at-issue ‘can include software, hardware and/or firmware[,]’ the *Finjan* patent explain[ed] precisely *which type* of software the content processor can be . . . and provide[d] exemplary source code and algorithms.” 5/11/18 Govt. Resp. at 12 (*italics in original*). Similarly, Plaintiff’s reliance on other federal district court cases is also misplaced. 5/11/18 Govt. Resp. at 13–15.

In sum, “the patentee chose to use the nonce word ‘logic’ as part of a claim term, ‘switch logic,’ that has no established or understood meaning in the art as the name for structure. Moreover, the patentee chose to define that term in entirely functional terms.” 5/11/18 Govt. Resp. at 15. Finally, “the patentee has provided no disclosure indicating what a ‘switch logic’ is, indicating only that it ‘can include software, hardware, and/or firmware.’” 5/11/18 Govt. Resp. at 15.

e. The Court’s Resolution.

i. 35 U.S.C. § 112, ¶ 6 Does Not Apply To The Term “Switch Logic.”

Use of the term “means” in a claim element creates a rebuttable presumption that 35 U.S.C. § 112, ¶ 6 applies. *See Williamson*, 792 F.3d at 1348. Conversely, the absence of the word “means” creates a rebuttable presumption that 35 U.S.C. § 112, ¶ 6 does not apply. *Id.*; *see also Advanced Ground Info. Sys., Inc. v. Life360, Inc.*, 830 F.3d 1341, 1347 (Fed. Cir. 2016) (same). The presumption, however, may be overcome by demonstrating that the claim term fails to “recite[] sufficiently definite structure” or else recites “function without reciting sufficient structure for performing that function.” *Watts v. XL Sys. Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000). As the United States Court of Appeals for the Federal Circuit has held, the standard is “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1007 (Fed. Cir. 2018).

In this case, none of claims at issue in the ‘156 and ‘458 Patents include the word “means” nor does it appear together with the term “switch logic.” Therefore, a rebuttable presumption does not arise under 35 U.S.C. § 112, ¶ 6. *Id.* The Government is correct that the United States Court of Appeals for the Federal Circuit has held that “nonce words” such as “device,” “element,” “generator,” “mechanism,” and “module” are non-structural generic placeholders that may invoke 35 U.S.C. § 112, ¶ 6.²⁸ But, our appellate court repeatedly has held that when the term “logic” is

²⁸ *See, e.g., Advanced Ground Info. Sys., Inc.*, 830 F.3d at 1347–48 (“The term ‘symbol generator’ invokes the application of § 112, ¶ 6[,] because it fails to describe a sufficient structure and otherwise recites abstract elements ‘for’ causing actions . . . or elements ‘that can’ perform functions[.]” (citations omitted)); *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1373 (Fed. Cir. 2015) (“We have never found that the term ‘mechanism’—without more—connotes an identifiable structure; certainly, merely adding the modifier ‘compliance’ to that term would not do so either.”); *Williamson*, 792 F.3d at 1350 (“‘Module’ is a well-known nonce word that can operate as a substitute for ‘means’ in the context of § 112, para. 6 Generic terms such as ‘mechanism,’ ‘element,’ ‘device,’ and other nonce words that reflect nothing more than verbal

accompanied by a modifier, that “designates structure to skilled artisans.” *TecSec, Inc.*, 731 F.3d at 1348 (“[T]he term ‘digital logic’ designates structure to skilled artisans—namely digital circuits that perform Boolean algebra.”); *see also Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1373 (Fed. Cir. 2003) (“While we do not find it necessary to hold that the term ‘circuit’ by itself always connotes sufficient structure, the term ‘circuit’ with an appropriate identifier such as . . . ‘logic,’ certainly identifies some structural meaning to one of ordinary skill in the art.”); *Intel Corp v. VIA Techs.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003) (holding that generic “core logic” was adequate corresponding structure for a claimed function although there was no specific circuitry disclosed to show how the “core logic” was modified).

Therefore, Section 112, ¶ 6 does not apply if a person of ordinary skill in the art, having read the specification, understands the term to be the name of the structure that performs the function, even if the term covers a broad class of structures or identifies the structures by their function. *See Apex Inc.*, 325 F.3d at 1372 (“To help determine whether a claim term recites sufficient structure, we examine whether it has an understood meaning in the art. As an aid in making this determination, this court inquires into whether the term, as the name for the structure, has a reasonably well understood meaning in the art[.]” (quotation marks and citations omitted)); *see also Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996) (“Many devices take their names from the functions they perform.”). For this reason, in this case no additional word is required to denote a specific structure or a precise physical structure to avoid the application of 35 U.S.C. § 112, ¶ 6. *See Watts*, 232 F.3d at 880–81.

constructs may be used in a claim in a manner that is tantamount to using the word ‘means’ because they ‘typically do not connote sufficiently definite structure’ and therefore may invoke § 112, para. 6.”); *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1098 (Fed. Cir. 2014) (holding that the terms “program recognition device” and “program loading device” were means-plus-function limitations where the specification did not disclose any structure for the “devices” but only the functions that the devices performed); *Welker Bearing Co., v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir. 2008) (holding that the term “mechanism for” was a means-plus-function limitation despite the absence of the word “means,” since the claim did not recite any structure that performed the recited function and the generic reference to “mechanism” did not connote specific structure); *Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006) (holding that the term “mechanism for” was a means-plus-function limitation even though term “means” was not recited, since the term “colorant selection mechanism” appeared to have been used synonymously with “means” and the claim did not recite additional details to know what structure formed the “mechanism”); *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1325 (Fed. Cir. 2004) (holding that the term “‘control mechanism,’ like the [term] ‘control means’ . . . is subject to § 112 ¶ 6”); *see also* MPEP § 2181(I)(a) (“The following is a list of non-structural generic placeholders that may invoke 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, paragraph 6: ‘mechanism for,’ ‘module for,’ ‘device for,’ ‘unit for,’ ‘component for,’ ‘element for,’ ‘member for,’ ‘apparatus for,’ ‘machine for,’ or ‘system for.’”).

This list is not exhaustive and other generic placeholders may invoke 35 U.S.C. § 112, ¶ 6, but the term “switch logic” is not on the list of generic placeholders.

The written descriptions of the ‘156 and ‘458 Patents disclose that “switch logic” can include “software,”^[29] hardware,^[30] and/or firmware.”³¹ ‘156 Patent col. 20 ll. 35–36 (“The Switch Logic **1860** can include software, hardware, and/or firmware.”); ‘458 Patent col. 35 ll. 20–21 (same). “Switch logic” also can be incorporated as a component of “hardware,” *i.e.*, as “firmware,” or as a separate component(s), *i.e.*, as “software.” For example, several embodiments use the term “switch logic” to include “firmware,” *e.g.*, Claims 1, 14, 20, 29, 34, and 39 of ‘156 Patent, where the term “integrated circuitry,” *i.e.*, “hardware” includes “switch logic” and the written descriptions of the ‘156 and ‘458 Patents disclose “switch logic” as a component of an “integrated circuit.”³² ‘156 Patent col. 20 l. 11 (“Integrated Circuit **130** . . . includes Switch Logic **1860**[.]”), col. 22 l. 62, col. 23 l. 5 (same), col. 24 ll. 9, 21 (same), 51, 57 (same), col. 25 ll. 30, 35 (same), col. 25 l. 59, 65 (same), col. 26 ll. 26, 32 (same); ‘458 Patent col. 34 ll. 60–61 (“Integrated Circuit **3930** . . . includes Switch Logic **3960**[.]”). In addition, other embodiments use the term “switch logic” to include “software,” where the written descriptions disclose that the “software” may be executed by the “integrated circuit,” *i.e.*, the “hardware.” ‘156 Patent col. 22 ll. 9–10 (“The steps shown in FIGS. 19 and 20 are optionally performed using Integrated Circuit **1830** of FIG. **18**.”), col. 23 ll. 46–56 (integrated circuitry including . . . switch logic), col. 24 ll. 9, 21 (same), 51, 57

²⁹ *The Authoritative Dictionary of IEEE Standard Terms* defines “software” as “[c]omputer programs, procedures, and possibly associated documentation and data pertaining to the operation of a computer system.” INST. OF ELEC. AND ELECS. ENG’RS, THE AUTHORITATIVE DICTIONARY OF IEEE STANDARD TERMS 1067 (7th ed. 2000); *see also Software*, WEBSTER’S NEW WORLD COLLEGE DICTIONARY (5th ed. 2016) (defining “software” as “the programs, routines, etc. for a computer or computer system”).

³⁰ *The Authoritative Dictionary of IEEE Standard Terms* defines “hardware” as “[p]hysical equipment used to process, store, or transmit computer programs or data.” INST. OF ELEC. AND ELECS. ENG’RS, THE AUTHORITATIVE DICTIONARY OF IEEE STANDARD TERMS 504 (7th ed. 2000); *see also Hardware*, WEBSTER’S NEW WORLD COLLEGE DICTIONARY (5th ed. 2016) (defining “hardware” as “the mechanical, magnetic, and electronic design, structure, and devices of a computer or computer system or of other electronic equipment”).

³¹ *The Authoritative Dictionary of IEEE Standard Terms* defines “firmware” as “[t]he combination of a hardware device and computer instructions and data that reside as read-only software on that device.” INST. OF ELECTRICAL AND ELECTRONICS ENG’RS, THE AUTHORITATIVE DICTIONARY OF IEEE STANDARD TERMS 438 (7th ed. 2000); *see also Firmware*, WEBSTER’S NEW WORLD COLLEGE DICTIONARY (5th ed. 2016) (defining “firmware” as “a computer program stored on a ROM chip”).

³² *The Authoritative Dictionary of IEEE Standard Terms* defines “integrated circuit” as a “combination of interconnected circuit elements inseparably associated on or within a continuous substrate.” INST. OF ELEC. AND ELECS. ENG’RS, THE AUTHORITATIVE DICTIONARY OF IEEE STANDARD TERMS 570 (7th ed. 2000); *see also Integrated Circuit*, WEBSTER’S NEW WORLD COLLEGE DICTIONARY (5th ed. 2016) (defining “integrated circuit” as “an electronic circuit containing many interconnected amplifying devices and circuit elements formed on a single body, or chip, of semiconductor material”).

(same) ‘458 Patent col. 36 ll. 62–63 (“The steps shown in FIGS. 40 and 41 are optionally performed using Integrated Circuit **3930** of FIG. 39.”).

Either “firmware” or “software” instructs the “hardware,” *i.e.*, the “integrated circuit,” to perform the recited functions, *e.g.*, “to receive data from the input, to read the key from the key memory, to compare the received data with the read key, and to change the ON/OFF state,” the switch logic being further configured “to determine whether or not to provide the second RF signal to the antenna for transmission.” ‘156 Patent col. 23 ll. 5–11. Accordingly, one of ordinary skill in the art, having read the written descriptions of the ‘156 and ‘458 Patents, would understand the term “switch logic” as part of the integrated circuitry. Likewise, “logic” is understood as a “[g]eneral term for the various types of gates, flip-flops, and other on/off *circuits used to perform problem-solving functions* in a digital computer.” *See Logic*, MCGRAW-HILL DICTIONARY OF SCI. AND TECH. TERMS (6th ed. 2002) (*italics added*); *see also Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed. Cir. 2004) (“Technical dictionaries, which are evidence of the understandings of persons of skill in the technical arts, plainly indicate that the term ‘circuit’ connotes structure.”); *Apex Inc.*, 325 F.3d at 1373 (“While we do not find it necessary to hold that the term ‘circuit’ by itself always connotes sufficient structure, the term ‘circuit’ with an appropriate identifier such as ‘interface,’ ‘programming’ and ‘logic,’ certainly identifies some structural meaning to one of ordinary skill in the art.”).

Therefore, the court has determined that one of ordinary skill in the art, reading the written descriptions of the ‘156 and ‘458 Patents, would understand the term “switch logic” to mean a part of integrated circuitry.

ii. The Construction Of The Term “Switch Logic.”

Claim 1 of the ‘156 Patent recites

a switch logic configured to receive data from the input, to read the key from the key memory, to compare the received data with the read key, and *to change the ON/OFF state* stored in the state memory responsive to this comparison, the switch logic being further configured *to determine whether or not to provide the second RF signal to the antenna for transmission*, the determination being responsive to the ON/OFF state stored in the state memory.

‘156 Patent col. 23 ll. 5–13 (Claim 1) (*italics added*); *see also* ‘156 Patent col. 23 ll. 56–64 (same) (Claim 11), col. 24 ll. 21–29 (same) (Claim 14).

Similarly, Claim 20 of the ‘156 Patent recites “a switch logic configured to receive data from the input, and *to determine whether or not to provide the second RF signal to the antenna for transmission*, the determination being responsive to the state stored in the state memory or the mechanical switch.” ‘156 Patent col. 24 ll. 57–61 (*italics added*); *see also* ‘156 Patent col. 25 ll. 36–40 (Claim 29), col. 25 l. 65–col. 26 l. 6 (Claim 34), col. 26 ll. 33–36 (Claim 39). Likewise, Claim 24 of the ‘156 Patent, that depends from Claim 20, recites “the switch logic being further configured to read the key from the key memory, to compare the received data with the read key, and *to change the state* stored in the state memory responsive to the comparison between the

received data with the read key.” ‘156 Patent col. 25 ll. 7–11 (*italics added*). In addition, Claims 6–8, 18, and 19 of the ‘458 Patent recite similar limitations. ‘458 Patent col. 38, ll. 16–25, 47–54.

The claims of the ‘156 and ‘458 Patents instruct that “switch logic” controls data transmission from the “RFID tag,” *i.e.*, by changing the “ON/OFF state” and determining whether to provide the “second RF signal” for transmission. The written descriptions of the ‘156 and ‘458 Patents support this construction. For example, the ‘156 Patent discloses that

Integrated Circuit **130** further includes Switch Logic **1860** configured to read the state stored in State Memory **1845** and, responsive to the read state, either transmit or not transmit an RF signal using Antenna **1810**. . . . In some embodiments, Switch Logic **1860** is configured to read the state stored in State Memory **1845** and, responsive to the read state, transmit one of a plurality of alternative data stored in Data Memory **1850**. In some embodiments, Switch Logic **1860** is configured to read the state stored in State Memory **1845** and, responsive to the read state, transmit different amounts of data stored in Data Memory **1850**.

In some embodiments, Switch Logic **1860** is configured to receive data through Antenna **1810**, to read a key from Key Memory **1855**, to compare the received data with the read key, and to change the state stored in State Memory **1845** responsive to this comparison. For example, in some embodiments, if the read key matches the received data, the state of the RFID Tag **1800** is set to ON, or changed from one ON state to another ON state.

‘156 Patent col. 20 ll. 11–33; *see also* ‘458 Patent col. 34 l. 60–col. 35 l. 16.

Contrary to Plaintiff’s proposed construction, the ‘156 and ‘458 Patents do not disclose that the “switch logic” controls a “switch.” Instead, the written descriptions provide that a “switch” is “activated by a magnetic field, an electric field, a wireless signal, light, heat, mechanical force, and/or an electronic circuit external to [a] Switchable RFID Device.” ‘156 Patent col. 8 ll. 7–10; *see also* ‘458 Patent col. 22 ll. 31–34 (same). In addition, the written description of the ‘156 Patent discloses that

Switch Logic **1860** is configured for turning ON and OFF operation of RFID Tag **1800**, while Switch **170** is configured to select between alternative ON states. In an alternative embodiment, Switch **170** is configured for turning ON and OFF operation of RFID Tag **1800** and Switch Logic **1860** is configured for selecting between alternative ON states. In some embodiments, proper activation of both Switch **170** and Switch Logic **1860** is required to turn RFID Tag **1800** to an ON state. Thus, in order for RFID Tag **1800** to transmit certain information, or to transmit at all, Switch **170** *must be activated by a person* and Switch Logic **1860** must receive a proper key from an RF reader. This provides a dual layer of mechanical and key based security.

‘156 Patent col. 20 ll. 53–66 (*italics added*); *see also* ‘458 Patent col. 35 ll. 38–51.

The claims of the ‘156 and ‘458 Patents also do not recite that the “switch logic” controls a “switch.” Instead, consistent with the written descriptions of the ‘156 and ‘458 Patents, Claim

20 of the ‘156 Patent recites a “*mechanical* switch configured for selecting between two or more ON states of the RFID tag.” ‘156 Patent col. 24 ll. 46–47 (italics added); *see also* ‘156 Patent col. 25 ll. 25–26 (“a mechanical switch configured to set a state of the RFID tag stored in a state memory”).

For these reasons, after reviewing the intrinsic evidence of the ‘156 and ‘458 Patents, including the claims, the written descriptions, and prosecution histories,³³ the court has determined that a person of ordinary skill in the art would understand the term “switch logic” to mean:

Circuitry and set or sets of logic instructions directing the operation of a RFID tag.

V. CONCLUSION.

For the reasons discussed herein, the court has determined that the disputed claims are to be construed, pursuant to this Memorandum Opinion And Order Construing Certain Claims of United States Patent Nos. 7,719,425; 7,924,156; 9,524,458; 9,569,777. In addition, Steven M. Colby is dismissed as a Plaintiff, as he does not have standing to seek an adjudication in this case.

IT IS SO ORDERED.

s/ Susan G. Braden
SUSAN G. BRADEN
Senior Judge

³³ The prosecution histories of the ‘156 or ‘458 Patents did not include relevant information regarding the construction of the term “switch logic.”